FEDERAL RESPONSE TO MIDWEST FLOODING

 (103-42)

HEARING

BEFORE THE

SUBCOMMITTEE ON
INVESTIGATIONS AND OVERSIGHT

OF THE

COMMITTEE ON
PUBLIC WORKS AND TRANSPORTATION
HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRD CONGRESS

FIRST SESSION

OCTOBER 28, 1993

Printed for the use of the
Committee on Public Works and Transportation

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THURSDAY, OCTOBER 28, 1993

U.S. HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT,
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION,
Washington, DC.

The subcommittee met, pursuant to notice, at 10 a.m., in room 2167, Rayburn House Office Building, Hon. Robert A. Borski (chairman of the subcommittee) presiding.

Mr. BORSKI. The subcommittee today will review the performance of the Federal Emergency Management Agency and other Federal agencies in responding to the needs of hundreds of thousands of people who faced the devastation from the enormous and unprecedented flooding in the upper Mississippi basin.

The flooding resulted in part or all of nine States being declared Federal disaster areas and was an early test of the new leadership team at FEMA and the new spirit of interagency cooperation in the Executive Branch.

This high-stakes test was not only for the Federal agencies, but for those at the State, county, and local levels who were required to coordinate with all the other agencies and deal with flood victims on the front line.

This subcommittee has held numerous hearings on the performance of FEMA in the past. We have made recommendations for improvement in the agency's performance, some of which have been adopted.

This time, by all preliminary accounts, FEMA did an outstanding job of providing the leadership, coordination, and timely response victims of disaster expect of their Government. It is clear that James Lee Witt, the new FEMA director, has used his long and valuable experience in disaster relief programs to produce a remarkable turnaround in the agency's performance.

Mr. Witt has years of experience on the State level working with FEMA and he knew what had to be done to respond to the Mississippi flood. Above all, he knew that the response must be conducted in coordination with State and local officials on a continuing basis.

Mr. Witt has already taken the first administrative steps necessary to move FEMA in the direction of becoming a more effective disaster response agency. There is no question that more is needed, and we stand prepared to assist Mr. Witt.

We intend to use this hearing to receive testimony on how FEMA responded and how this disaster relief effort differed from events of previous years, which resulted in the widespread criticism of

FEMA's performance. We will also hear about the important role of the Department of Transportation, Corps of Engineers, and the Coast Guard, as well as State emergency management agencies.

Over the longer term, we will be working with our colleagues on the Subcommittee on Water Resources and Environment on legislation to improve the disaster relief program, not just for disaster response but also for recovery, preparedness, and mitigation.

We have learned in recent years, disaster by disaster, just how important our Federal relief effort is to the victims of disaster. It appears that the Mississippi River flooding marks a major step forward in the effort to provide disaster victims with assistance in their time of greatest need.

I now yield to the distinguished ranking member, Mr. Inhofe.

Mr. INHOFE. Thank you, Mr. Chairman.

Today's hearing is an important one and I commend you for scheduling it. You have already indicated that this is a continuation of our subcommittee's ongoing oversight into performance of the Federal agencies during natural disasters. It would appear from the evidence to date that the Federal response to the flood of 1993 was successful and all those who participated in its effort are to be commended.

Although my district is not directly affected by this flood, we have in the past experienced severe flooding. Thus, I can fully empathize with those individuals who were displaced due to the flood waters.

The ability of the Federal Government to respond quickly and adequately to a disaster is essential because, as the affected States know, when a disaster of this size occurs, local and State resources to respond can easily be overwhelmed. Thus, it is important that we examine the shortcomings of the Federal response to the flood of 1993 so that we can improve on it. Equally important is to examine its successes so that we can build on them for future disaster response.

Mr. Chairman, given the large number of witnesses, I will conclude my remarks and look forward to our distinguished panel of witnesses.

Mr. BORSKI. The Chair thanks the distinguished ranking member.

I would now ask for all other members to hold any opening statements for another time. We have a distinguished guest who is running on a tight schedule. Unfortunately, disasters don't happen when we know they will, even when hearings are scheduled. I understand that Mr. Witt is about to catch a plane to California.

We appreciate your coming by. We welcome you to make any opening remarks.

[Witness sworn.]

TESTIMONY OF JAMES LEE WITT, DIRECTOR, FEDERAL EMERGENCY MANAGEMENT AGENCY

Mr. WITT. Thank you, Mr. Chairman and members of the committee.

I really appreciate this. The President has asked me to go to California immediately, and that is what I am about to do.

I would like to enter my statement for the record, if that is okay, and make a few comments on our disaster response in the midwest.

Mr. BORSKI. Without objection, your prepared statement will appear in the record.

Mr. WITT. I thank you.

It is important for this committee to understand what we did in the midwest and how we did that.

Early on, when I was sworn in as Director of FEMA, we established a communications system with the White House and information flow that would be quickly sent in to the situation room for the President and the Vice President. From that point on, we worked very hard with the States and local emergency managers and our Federal counterpart here in Washington, D.C. to make sure that we were all working together as partners and to make sure that we established an emergency management system for this country that would work.

Doing this early on soon after I was sworn in as director of FEMA this let us develop a system with which we could respond very quickly.

Also, I sent out a memo to our regional offices advising them that I would like for them to identify an individual to go to that State EOC, if it was evident that we were going to have a disaster, to work with those States on advice and technical assistance.

We did this in the midwest flood. It worked very well. We also pulled our Federal counterparts into our agency. We had a meeting every day at 11:00 to discuss the issues and discuss what we were doing and how we were doing it together so that we would not duplicate services and waste money.

Also, every morning at 9:30 I had a conference call with all of the State Directors of the nine States that were affected with our Federal counterparts in Washington, D.C. and also our Federal coordinating officers so that if there were any issues that had come up over the night we would be able to address those very quickly and be able to respond to them very quickly.

One of the biggest factors that we have at this time in our recovery phase is the fact that the buy-out/relocation program is very critical so that we can get these people a decision and get them out of harm's way for the future. This program that we are putting together is a program where we are pulling other Federal dollars together so that we can give them the very best package we can to relocate these people out of harm's way.

I do want to make a comment about the State and local emergency managers. They are so critical in order to have a good response and recovery. They have worked so hard out there with us and other Federal agencies in our mitigation teams in each State identifying these people and communities that need to relocate. We have over 207 communities that are interested in relocation. We are presently working with 53 of those communities, hand-in-hand, to help them relocate. We will be working with the rest of them as we go through this recovery phase.

With those brief remarks, Mr. Chairman, I have Bill Tidball, my chief of staff, who will be available to answer any questions anyone may have on our response and recovery and what we have done and where we are.

Also, if you have any questions of me, I will be happy to come meet with any Member one-on-one to answer their questions or will be able to provide them in writing, if that is okay.

Mr. BORSKI. Thank you very much.

Do you have a few minutes now?

Mr. WITT. Yes.

Mr. BORSKI. Let me first of all make a comment that I made yesterday.

The Clinton Administration, in my view, has made a number of excellent appointments, but no Department has been better served and has improved more dramatically than FEMA has under you, and you are to be congratulated for that.

I would suggest to the members that since we have only 20 minutes for Mr. Witt, perhaps we could each ask one question and then move on with the rest of the hearing.

You mentioned in your remarks about buy-out and relocation and how important that is. Hazard mitigation spending—which is as I understand it, part of buy-out and relocation—could potentially save the Federal Government millions of dollars in future disaster assistance payments. Therefore, why should we cap hazard mitigation spending to an arbitrary percentage of damages suffered in a particular disaster?

Mr. WITT. We need a very strong hazard mitigation program. It will not only save the Federal taxpayers dollars in disaster dollars, it will save State and local tax dollars as well. The most critical thing is that it will keep people from going through the suffering they have gone through in losing everything and trying to rebuild their homes and their livelihood.

So if we start now and work toward establishing a good, strong hazard mitigation program and identifying these areas with the State and local communities, then it will help us a great deal.

Mr. BORSKI. Could you speak to the cap, sir? There is a cap on hazard mitigation. I believe you are on record as being in favor of lifting that from 10 to 15 percent.

Mr. WITT. Yes.

Mr. BORSKI. Why should we have a cap at all if it is that important?

Mr. WITT. At the present time, the mitigation fund is tied to the public assistance fund on the disaster. Mr. Chairman, 10 percent of the public assistance dollars are made available to each State for mitigation funds. There is a 50/50 match at the present time.

When you have a State or local community going through a disaster and trying to have to match 50 percent—and also matching the 25 percent on disaster funds—it is very difficult. A lot of communities will not utilize the mitigation fund because of that. They just do not have the money.

So it is critical that we change that under Congressman Volkmer's bill to 75/25 and increase the cap from 10 to 15 percent of money that is available for the communities on buy-out and relocation.

Mr. BORSKI. The gentleman from Oklahoma, Mr. Inhofe?

Mr. INHOFE. Thank you, Mr. Chairman.

Let me echo your remarks about the Administration—I haven't spent a lot of time on complimenting the President on his appointments, but I sure did on this one.

Mr. WITT. Thank you, sir.

Mr. INHOFE. Since we are confined in our timing right now, I am interested in learning from mistakes. I think we did a good job. Your office certainly did a good job. I know that when you first took this position you talked about learning from mistakes. It is my understanding that you have actually already filed or are preparing to file a report with OMB on improvements that can be made.

Would you elaborate a little bit on that?

Mr. WITT. Some of the things we are going to be looking at with the States in partnership is to identify the risk that each State faces. It is very critical that we try to reprogram our programs to be flexible enough to work with the States in letting them help develop the program to be trained, prepared, and exercised toward the risk they face instead of what we have been doing in the past.

Mr. BORSKI. The Chair of the full committee, Mr. Mineta?

Mr. CHAIR. Thank you very much.

Mr. Chairman, let me thank you for your leadership in calling for these hearings and for your work through members of this Subcommittee as well as the staff on both sides of the aisle as far as the investigative work you have been doing.

Over the past 4 years this Committee has had a series of hearings on FEMA's response to catastrophic disasters. I am sorry to say that most of those hearings have been angry hearings where those of us on the Committee complained about what seemed to be the incapacity of FEMA to respond adequately to the needs of our constituents across the country.

I remember particularly the 2 days of hearings we had in 1990 when we reviewed FEMA's performance in responding to Hurricane Hugo and the Loma Prieta earthquake. The latter one, of course, I know because the epicenter of the Loma Prieta earthquake was in my district. It had a devastating effect in that area. I was astonished at the ineffectiveness of FEMA's response.

You will recall that at the time I said, "If there is any agency in the Federal Government that could screw up a two-car parade, it is FEMA."

The one thing that is most satisfying to me in public life is when I can observe within a relatively short period of time a real improvement in the service that the Federal Government delivers to the people of the United States, especially when this Committee has played some role in this improvement.

I believe that FEMA's performance this year is an example of that kind of improvement. It is due in large measure to the leadership and the knowledge that James Lee Witt brings to his position. We will, to be sure, hear some suggestions today about how FEMA could have done some things better, but the general thrust of the testimony will be that FEMA has delivered finally on its promise to stand with the American people when floods or hurricanes or earthquakes devastate their communities.

I think there are two major factors behind that improvement. First, I would hope that the hearings held by this Committee and others make clear that we want FEMA to take the initiative, to be

proactive in responding to disasters. And the staff of FEMA—who I think always wanted to play that kind of active role—responded with a much more aggressive approach to a disaster response. Secondly, as I have already mentioned, FEMA received new leadership that is experienced in disaster response and is committed to meeting the disaster response needs of the American people.

James Lee Witt has clearly brought a new style of management to FEMA. His reorganization plan mobilizes all of FEMA's resources to meet the disaster response needs of the American people. He made clear that his first priority at FEMA is meeting the needs of the American people, not following FEMA's internal procedures.

FEMA may still need some changes to its statutory authorization. I have introduced a bill. Congressman Borski has also introduced a bill. I gather FEMA has been working on its own bill. We should focus on possible legislative changes at a subsequent hearing. But I think FEMA has made a great start this year under its new leadership.

I commend the director on his work so far and I look forward to hearing how FEMA and the other Federal agencies responded to this year's flood disaster.

Again, let me just commend you, Mr. Witt, for your capabilities, as well as your initiative in being able to pull other Federal agencies together under your fine leadership under the umbrella of FEMA as an agency.

Thank you very much.

Thank you, Mr. Chairman.

Mr. BORSKI. I thank the distinguished gentleman.

The Chair would now like to recognize the gentleman from Michigan, Mr. Barcia.

Mr. BARCIA. Thank you very much, Mr. Chairman.

I have a prepared statement for the record.

Mr. BORSKI. Without objection, your prepared statement will appear in the record at this point.

[Mr. Barcia's prepared statement follows:]

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SCIENCE
SPACE

Congress of the United States
House of Representatives
Washington, DC 20515-2205

Opening Statement
Honorable James A. Barcia

Hearing of the Subcommittee on Investigations & Oversight
October 28, 1993

MR. CHAIRMAN, all Americans were pained by the horrifying daily reports on the flooding in the Midwest this Summer. The flooding on the Mississippi and its tributaries has been one of the most significant national disasters of this century. Yesterday we heard compelling stories from our colleagues about the suffering of our fellow Americans in these states. But we also heard example after example of how different human actions and reactions, some from decades ago, made the results of this event all the more tragic. There will be a wealth of data created and lessons learned that should not be lost due to inattentiveness to the value of information. I am happy that our Committee is taking the lead in seeking to gain something positive out of this tragedy by studying the natural, personal and commercial effects of the floods, our response and relief efforts, and what information might be taken from this event and disseminated to the appropriate federal, state and local institutions.

I believe that the flooded areas along the rivers of the midwest are a natural laboratory from which we, as a nation, can learn how to prepare for similar disasters in this and other areas of the country. We should take particular advantage of existing resources which can help us extrapolate from this and past experiences information to improve our response to our most recent and future tragedies. Our goal must be to learn from such experiences and more effectively and expediently address natural disasters and their aftermath to make them less damaging, less fatal and shorter in duration.

How and where are levies most effective and at what heights? How do building codes and flow control practices upstream affect the flow of the river downstream? How do we keep hazardous materials from entering the waters that millions of people rely upon every day for their livelihood? And, as Mr. Witt, the FEMA director, plans to leave us to fly out to the fires around Los Angeles, what can be done to minimize the damage from this latest disaster, and how do we use all of the information available to prevent such further disasters as mud slides which could result from rains on defoliated Los Angeles hills in the Spring?

I thank you, Mr. Chairman, Chairmen Mineta and Applegate, and our Ranking Members for offering us an opportunity during these two days to ease such suffering in the future.

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Mr. BARCIA. I, too, would like to echo the sentiments of the previous speakers in terms of complimenting you on the leadership that you have brought to the agency, and especially for the testimony before the subcommittee on this very important issue.

The Consortium for International Earth Science Information Network, or CIESIN, is developing a consortium which encompasses academic, governmental, public, and private organizations who share a mutual understanding of our global environment. The consortium intends to compile local and international environmental data from sources all over the world to study trends and changes in the global environment and the effects on human populations and civilizations.

They will do this by focusing on socioeconomic data and data on the interactions between human activities and physical and ecological changes. This does turn into a question, Mr. Chairman—and realizing that the witnesses will most probably not be able to answer this question at this time—I would like for each of the Federal witnesses today to comment, if you wish, and to have your organization report to the committee on how such information may have been and may be useful in predicting the effects of such a disaster, responding to the flood and potential dangers to people and their property, and the ensuing cleanup process.

For instance, I have been told by committee staff that there are no measurements of toxic releases from any of the Superfund sites along the damaged areas. Since I cannot believe that there will be no contamination of waters flowing through such sites, wouldn't the compilation of data from the coming months' study of such effects in the flow of the rivers when they broke through their levies, et cetera, be useful in responding to future disasters?

If we have a measure of every response and result, may we not eliminate—or at least substantially reduce—the prospects for repeating mistakes of the past and the present? And knowing that EPA and the Department of Agriculture already do some work with CIESIN, how may we be able to work with your agency to most effectively tap this and other existing resources?

Mr. BORSKI. I hope you don't need him to repeat the question.

Mr. WITT. No, Mr. Chairman.

We will be glad to get the answers back to you in writing, if that is okay.

One thing I would like to say is the fact that we are working with the International Decade for Disasters. I will be meeting and speaking for the International Decade for Disasters in Japan next May. I am a member of that advisory board now. The National Aeronautics and Space Administration (NASA) is the primary federal agency providing support to the Consortium for International Earth Science Information Network, which is involved in the compilation of worldwide environmental data involving trends and changes in the global environment and their effects on human populations. In view of our mission to minimize the effects of disasters of all types in the United States, the Federal Emergency Management Agency has a keen interest in the collection and analysis of such data. This is particularly true with regard to socioeconomic data on the interactions between human activities and environmental and ecological changes. We are very interested in the pre-

dictive capability that could result from such endeavors, particularly as it relates to human impacts. FEMA intends to contact NASA to further investigate the applicability of this information to disaster management and reduction.

Mr. BORSKI. The Chair thanks the gentleman for a very good question and for learning the ways of allowing the witnesses to respond further in writing.

The gentleman from Illinois, Mr. Poshard?

Mr. POSHARD. Thank you, Mr. Chairman.

I know we are short on time here in deference to the director having to go to California. I do have a list of questions I would like to submit to you on follow-up things along the Mississippi.

Previous to this year, the stretch of river on the Mississippi from St. Louis to Cairo was in my district. Mr. Costello has it now due to redistricting last year.

But nevertheless, I did travel up and down the river with the Air National Guard at times during the flood to look at communities which I had represented in the past, and some on the southern end that I represent now. I was amazed by the tremendous cooperation between the Federal, State, and local people and the fact that FEMA was controlling the logistics of that whole situation.

Mr. Witt, I have to tell you that you did a tremendous job. We are not here just to patronize you, but FEMA really came through in this situation. One of the things I was most impressed with—I had seen in the disasters in Florida and the Carolinas with the hurricanes, and the earthquake damage in California—seemingly, there was no logistical control over the donations that came into those areas, such as food and clothing and everything else. I couldn't believe the efficiency with which these things were moved in the Mississippi flood disaster.

You didn't see warehouses of things sitting around being wasted and going nowhere. It seemed that your agency really spent a lot of time on moving those items to places where they could be used in getting into the hands of people.

I just wanted to congratulate you and thank you for that. I will get some questions to you later for some follow-up. But thank you very much for being here.

Mr. WITT. Thank you, sir.

Mr. BORSKI. The Chair would now like to recognize a valuable member of the full committee, a gentlewoman with first-hand experience, Ms. Danner from Missouri.

Ms. DANNER. Thank you, Mr. Chairman. I have a prepared statement for the record.

Mr. BORSKI. Without objection, your prepared statement will appear in the record at this point.

[Ms. Danner's prepared statement follows:]

STATEMENT OF CONGRESSWOMAN PAT DANNER

Mr. Chairman, thank you. As a member of the Public Works Committee I appreciate the opportunity to participate in this most important hearing. My district in Missouri was severely affected by the flood of this past summer and I believe that we can use the experiences of my district to learn some of the problems in our disaster relief programs and improve the Federal response in future disasters.

During, as well as, in the aftermath of the flooding, I travelled extensively throughout my district and witnessed the devastation caused by the flood. My district in Missouri is bordered on the west and the south by the Missouri River. In

addition, the relentless rains and the many Missouri River tributaries run through my district. The topography of my district resulted in not only in the loss of homes, business, communities, and lives, but also in the loss of the land on which my constituents live. All 27 counties in my district were declared national disaster areas.

Although there are many horror stories regarding the effects of the flood, there are also many success stories. One of the success stories is the response of the Federal Emergency Management Agency. I would like to commend the efforts of the FEMA staff. In many areas, my constituents received exceptional assistance from FEMA. The response was immediate and well-placed—FEMA wasted no time in setting up disaster field offices in affected areas and effectively simplified the application process. In addition, the FEMA staff was, in almost every instance, accessible and knowledgeable. I cannot tell you how FEMA responsiveness eased the burdens of individuals affected by the flood.

I would also like to commend the efforts of the Corps of Engineers, especially the Kansas City District Corps Office. The staff of this office is also knowledgeable and accessible and has made sincere efforts to assist individuals who have levees destroyed by flooding.

However, as in all response efforts, I believe that there is much room for improvement. I think that we must carefully examine the experiences of individuals and communities affected by the flood to ensure that, in future disasters, the needs of affected individuals are met.

Specifically, I think that the policy of rehabilitating the land affected by flooding must be reviewed. As my district has begun the long process of putting together the pieces of their lives, they have found that one area which is difficult to put back together, due to confusing and conflicting Federal regulations, is the land on which they live. We must review our current river management policy and ensure that victims of the flood can resume their lives.

I look forward to hearing the testimony of the various panels and their expert opinions on this important subject. Only through working together can we assist individuals affected by future disasters.

Ms. DANNER. First of all, I would like to thank you for your courtesy in permitting me to sit in on your subcommittee hearing this morning. I am very, very appreciative.

I am going to call him James Lee because we became phone pals during the course of the flood in mid-America.

I, too, will be brief because I know of your time limitations, but I do want to say that I know first-hand of how fine a job your organization has done and it is directly because of you. I never attempted to reach you one single time that you didn't get back to me immediately. That sets a pretty high-level-mark for you to achieve with everyone else, I know.

Did I detect perhaps some support for Congressman Volkmer's legislation?

Mr. WITT. Yes, ma'am.

Ms. DANNER. Very good. I will report that to Harold. He will be pleased to hear that.

One question I would like to raise with regard to the unemployment assistance program—my understanding is that for the farmers the amount arrived at for unemployment is based upon the prior 12 months—what they earned the prior year and then divided by 12 months. That presents a real problem if for some reason they didn't have a crop the previous year or they had less than an average crop the previous year.

Is there some way that we might address that? And in addition to that, any other suggestions you have I would be very interested in. I would be interested in learning from you what you think we should be doing to help make your job easier so that it benefits our constituents.

Mr. WITT. When I get back from California, let me look into that for you. I will give you a call to let you know what we can do to support changes for that.

Ms. DANNER. Thank you very much.

As I said, I have questions, but I know your time is limited. And I know you are very much needed in California.

Mr. WITT. Thank you.

Mr. BORSKI. The Chair thanks the gentlewoman.

The Chair now recognizes the gentleman from Wisconsin, Mr. Barca.

Mr. BARCA. I would also like to welcome you here today. In my district, we also have sustained flood damage. I was equally impressed as the other comments have stated. You opened an office rather promptly in Monroe, and I know people in my area were very appreciative of that. I would also like to thank you for the cooperation you gave our office in terms of helping disseminate information and get to back to us on a timely basis.

I have one brief question and you can get back to us further, too. If you have any thoughts—in many parts of the country—and my district is certainly part of this same trend—we have so many dislocated workers that are out of work and looking for opportunities. I wonder, when there are situations like natural disasters of this sort, is there a way that we could utilize those kind of resources and the kind of people and the talent they have in order to provide them with some work opportunities?

Mr. WITT. Yes, sir, there is, and we did hire 419 local people during this disaster. Also, we worked with the States on the migrant workers as well that were up there stranded to help get them back to their homes.

Mr. BARCA. Thank you.

Mr. BORSKI. The Chair would now like to recognize the distinguished gentleman from Illinois, Mr. Costello. I thank the gentleman for his insistence in urging us to put this hearing together.

Mr. COSTELLO. Mr. Chairman, thank you for holding this important hearing today. I would like to submit my prepared statement for the record.

Mr. BORSKI. Without objection, your prepared statement will appear at this point.

[Mr. Costello's prepared statement follows:]

STATEMENT OF HON. JERRY F. COSTELLO

Mr. Chairman, I want to thank you for calling today's hearing to discuss the federal government's response to the severe flooding this summer in the Midwest. It is very important that the Committee look into this matter to ensure that FEMA, the Corps of Engineers and other federal agencies involved with fighting the flood carried out their assigned responsibilities properly.

In my Congressional District in Illinois, I witnessed the devastation of the flooding firsthand. Seven of the nine counties I represent were federally declared disaster areas. With the great help of FEMA, the Corps of Engineers, the Illinois Emergency Management Agency, and the Illinois National Guard, a large number of communities did not have to experience the trauma of a levee break. Unfortunately, other communities were faced with the tragedy of a levee breach as flood waters rushed through their homes, farms and businesses.

In Randolph County, the Corps and local officials made the decision to purposely breach the levee to save the historic town of Prairie du Rocher. Because pressure against the town's levee was relieved, Prairie du Rocher was not flooded. In south-

ernmost Illinois in Alexander County, a breach in the Len Small levee created a new channel for the Mississippi River to expand through valuable farmland.

Farther north in Monroe County, the town of Valmeyer lost its levee protection and was completely underwater. Many of you may remember the national news attention focused there after a television camera filmed the complete destruction of a large farmhouse. Residents of Valmeyer have voted to relocate out of the floor plain.

My constituents in the Metro-East, across the river from St. Louis, had extensive problems with sewer breaks. Through the public assistance program, local officials have applied for federal funds to repair these breaks. Although FEMA initially was unwilling to allow these towns to use a less-expensive method of repair, eventually common sense prevailed and FEMA has agreed to allow the preferred method on a case by case basis.

Generally, I have found FEMA to be helpful in resolving constituent problems. Though a final response may take a week or more, the staff working on the disaster has shown great consideration for those affected by the flood. However, people are getting more and more frustrated with the process and fewer FEMA representatives are available to discuss specific cases. I hope that just because the immediate crisis of the flood is over, FEMA will not allow Midwestern residents to fall through the cracks.

Again, Mr. Chairman, I want to thank you for your leadership on this issue. I hope that this subcommittee will be able to schedule a future hearing on this topic in St. Louis so that committee members will have the opportunity to see the devastation firsthand and to talk to people affected by this disaster.

I would also like to welcome the witnesses who will testify. Your comments and concerns are sincerely appreciated by the many victims of the Flood of '93.

There was some discussion yesterday at another subcommittee hearing about the possibility of holding hearings back in the St. Louis metropolitan area. I know that you tried to accommodate this subcommittee in attempting to arrange to hold this hearing today in St. Louis and it didn't work out because of our schedule here. But I thank you.

We have been in contact on a regular basis. Like my colleagues, I thank you for your immediate response to my phone calls. I express the appreciation of many elected officials in my district for your personal attention to the disaster we had. You came in personally. Secretary Espy has been in my district three or four times. As a matter of fact, he will be back in the next week or so.

Thank you.

Mr. WITT. Thank you, sir.

Mr. BORSKI. There being no further questions, Mr. Witt, again we want to thank you for your determination in coming today for a brief period of time. We greatly appreciate it and wish you well on the rest of your journey.

Mr. WITT. Thank you, Mr. Chairman.

Mr. BORSKI. Before we proceed, I would like to insert into the Record at this point the statement of our colleague from Pennsylvania, Mr. Blackwell.

[Mr. Blackwell's prepared statement follows:]

STATEMENT OF CONGRESSMAN LUCIEN E. BLACKWELL

Mr. Chairman, I believe we, in the Congress, can point with pride to the passage of H.R. 2667, which provided funds for the Midwest flood disaster relief. That bill, signed by the President in August of this year, at the peak of the flooding in the Upper Mississippi River Basin, injected some $6.2 billion in Federal assistance to those rain drenched areas.

H.R. 2667 was our response to the great flood of 1993. Today, we are focusing on the response of the Federal Emergency Management Agency.

Since FEMA was first created in 1978 by President Jimmy Carter, that agency has been charged with a wide range of responsibility. From natural disasters, such as the great flood of 1993 and the San Francisco earthquake of 1989, to nuclear fa-

cility emergencies, FEMA has become the lead agency, ready to assist the nation in all potential emergencies.

But, as with anything, there are burdens to bear for leadership, and there have been some serious questions raised as to the effectiveness of FEMA and its ability to handle national emergencies and massive disasters. The chaotic conditions which followed the devastation of Hurricane Andrew in Florida and Louisiana last summer, underscore the doubt and give us a sense of the nature of the question.

Mr. Chairman, when the committee held hearings on FEMA last March, I stated then that casting blame and finger pointing was not our purpose. I further stated that I did not believe FEMA should shoulder total responsibility for the perceived sluggish response by the Federal government to the incredible devastation we witnessed in the papers and on television. But when 50 people die, 14 million acres of land is left under water and countless numbers of new Americans join the ranks of the homeless as a result of the great flood of 1993, we must ask the tough questions. That's why we are here.

I want to hasten to add, however, that I was encouraged by FEMA's response to the Midwest flooding. Whether due to the gradualness of the flood destruction or actual policies, FEMA seemed well prepared. Nonetheless, Mr. Chairman, there are several issues that must be raised and explored during the course of this hearing.

We must know the long term environmental effects of the flooding. We must explore the manner in which FEMA and the Army Corps of Engineers pooled their resources to determine if we are maximizing our efforts. And, most importantly, we must ask how Congress, FEMA, the military and a host of other Federal agencies, can best work together, in concert with State and local governments, to ease the pain of emergency situations. Mr. Chairman, it is inevitable that there will be more floods and more earthquakes—but more chaos is avoidable. Thank you.

Mr. BORSKI. I would like to welcome our second witness today, Mr. Rodney Slater, Administrator, Federal Highway Administration, United States Department of Transportation. Mr. Slater is accompanied by Ms. Rose A. McMurray, acting administrator, Research and Special Programs Administration, United States Department of Transportation; and Rear Admiral William J. Ecker, Chief, Office of Navigation Safety and Waterway Services, United States Coast Guard.

I would also ask Mr. William Tidball from FEMA to please take the witness stand now.

[Witnesses sworn.]

Mr. BORSKI. Another of President Clinton's outstanding choices to head an administration, Mr. Slater.

TESTIMONY OF HON. RODNEY SLATER, ADMINISTRATOR, FEDERAL HIGHWAY ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, ACCOMPANIED BY ROSE A. McMURRAY, ACTING ADMINISTRATOR, RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION; AND REAR ADMIRAL WILLIAM J. ECKER, CHIEF, OFFICE OF NAVIGATION SAFETY AND WATERWAY SERVICES, U.S. COAST GUARD; AND BILL TIDBALL, CHIEF OF STAFF, FEDERAL EMERGENCY MANAGEMENT AGENCY

Mr. SLATER. Mr. Chairman, Congressman Inhofe, members of the subcommittee, I am pleased to be here today to note the joy the Department of Transportation has had in working with FEMA and the other Federal agencies involved in this recovery effort. It is my pleasure to introduce to you a couple of my partners in the Department's flood recovery activities, Rear Admiral William J. Ecker of the United States Coast Guard, and Ms. Rose McMurray, acting administrator of the Research and Special Programs Administration and head of the Department's emergency preparedness program.

We request permission to submit for the record Admiral Ecker's statement dealing with the heroic efforts of the United States Coast Guard in responding to the flood as well as my own detailed statement, which I would like to briefly summarize at this time.

Mr. BORSKI. Without objection, your prepared statement will appear in the record.

Mr. SLATER. This Administration is committed to making every effort to alleviate the effects of one of the worst natural disasters in this country in generations. The President, Vice President, Secretary Peña, other Federal transportation officials and I have made numerous visits to the flood scene to underscore our deep concern for the victims of this disaster.

In fact, the Administration's commitment to emergency preparedness did not begin with the midwest flood. One of the first things Secretary Peña did after being sworn in was to meet with those in the Department responsible for emergency response efforts. To quote Ms. McMurray, "We got an inkling of the Secretary's style during the Blizzard of 1993. The Secretary has really moved to posture the Department to deal with disasters. Because of his interest and commitment, we in emergency response have really altered the way we have approached our roles, resulting in a positive redirection of our response efforts."

The Department would also like to commend this committee for its role in the flood relief response. Thanks to the bipartisan congressional action in passing the emergency supplemental appropriations act, signed by the President on August 12th, we have been able to react quickly and effectively to the disaster with these additional emergency program funds.

We also commend the Federal Emergency Management Agency and the Corps of Engineers as well as the private transportation industries that all cooperated to an extent never experienced during a prior disaster. My written statement outlines the roles of the several modes involved within the Department of Transportation.

I have submitted to the committee prior to the hearing several items which analyze the Department's response to the flood and also respond to the committee's questions. Among these documents are: a task force report titled "Transportation; Roads and Bridges: Task Force Report on the 1993 Midwest Flood Recovery" dated August 31st; an October 18th update to that report; and certain American Association of State Highway and Transportation Officials' correspondence on these reports.

The flood waters are now receding, but that does not mean that our work is over. So this hearing is most timely. It is predicted by some that 1994 may well be another year of excessive rainfall. If so, this could be a disaster for the areas in the midwest where levees have been breached, as well as other flood-prone areas in the United States. You can be assured that the Department of Transportation recognizes that its work is not done and that we will be there and do whatever is necessary to ensure that our response is appropriate and timely.

In addressing the specific areas on which the committee requested information, I would like to speak briefly about the damage to transportation infrastructure as a result of the flooding in

the nine-State area and then summarize the Department's efforts in responding to and repairing the damage.

As far as a description of the flood damage, the response to the great flood of 1993 was the largest ever mounted by the United States Coast Guard's second district headquartered in St. Louis. The area of responsibility included the upper Mississippi River, the Illinois and Missouri River, and their tributaries from St. Paul, Minnesota to below Cairo, Illinois.

In St. Louis and Paducah, the commander of the Coast Guard forces' operational organization was activated to provide command and control of all Coast Guard floating and air assets as well as Coast Guard regular, reserve, auxiliary, and civilian personnel. The Coast Guard had approximately 500 personnel assigned to the field at the height of the flood. The Coast Guard conducted more than 2,400 missions and assisted more than 2,900 people.

The multi-mission capability of the Coast Guard was evident throughout the response period as Coast Guard personnel shifted seamlessly between different roles—some traditional and some not. As the flood waters subsided, the Coast Guard worked closely with the Corps of Engineers to reopen waterways as quickly as possible to facilitate the resumption of commercial activity.

While the Coast Guard response personnel were busy carrying out these activities, their own facilities did not escape the effect of the flood. Three Coast Guard facilities were totally inundated and 16 high level VHF/FM communication sites were destroyed by the flooding. In addition, 5,000 buoys and 750 shore aids to navigation were washed away.

The Coast Guard, the Corps of Engineers, and the tow boat industry established a 24-hour operations and information center to safely reopen navigation as waters receded. Today, with the exception of reoccurring silting problems in sections of the upper Mississippi River, commerce has basically returned to normal.

The destruction wrought by the flooding to all forms of transportation infrastructure was unprecedented. At the peak of the flooding, 36 airports were closed and almost all navigation aids on the Missouri and Mississippi Rivers were destroyed. Nearly all railroad lines through the area were shut down and a major railroad bridge across the Missouri River, the Gateway Western Bridge at Glasgow, Missouri, had collapsed. Over 10,000 miles of track were affected as breaks and washouts between major points effectively stopped through traffic.

Except for the Kansas City area, all but one bridge across the Missouri River, the I–70 bridge in central Missouri, were closed between Omaha, Nebraska, and St. Louis, Missouri. Again, the damage was significant. Where the Mississippi River flows past central Illinois, only bridges in the St. Louis metropolitan area were open.

The primary damage to the maritime industry as a result of the flooding was the loss of revenues while rivers were closed to navigation for almost 90 days. Ironically, because of the heavy silt deposits in the navigation channels and the unrepaired levees, the current problem caused by the flooding is not one of too much water, it is one of not enough water. Current estimates show that the barge industry lost almost $200 million in revenues and terminal operators lost almost $100 million.

Railroad infrastructure was also severely damaged. Total cost to railroads for repairs are in the hundreds of millions of dollars, almost all of which will be financed with private funds.

In contrast with other transportation systems, damages to the transit infrastructure were minimal. This is due in large part to the efforts of transit agencies in flood stricken areas in moving their vehicles to higher ground.

Quickly, I will deal with the Department's response.

During the flooding crisis, the primary concern of the Department was providing for the health and well-being of its victims. Restoring essential transportation services is a key element in this process. Therefore, at the first sign of the impending crisis, an advanced team of emergency response personnel was sent to the flood area to set up a disaster field office as quickly as possible. This office served as the nerve center in the region.

At this office, all DOT organizations called upon to respond to the disaster were formed into what is called an emergency support function. It is through this group that the transportation-related Federal agencies provided technical and human resources to assist in reviving and reconstructing the midwest's transportation systems.

Because of the temporary loss of roads, bridges, and railroads, several alternative methods of serving the public's transportation needs had to be implemented. They included ferry services across areas where roads and bridges were flooded out and bus shuttle services between ferry landing and destination areas. Again, these are just a few of the many examples of individuals committed to responding to a catastrophe and using their creativity and ingenuity in doing so.

Many trains were rerouted over the lines of other railroads. Thus, we had competing rail carriers cooperating to maintain our national system of rail service, thereby limiting significantly the economic damage caused by transportation delays and disruptions.

Damage to maritime equipment was minimal and for the most part required only the repair and cleaning of terminal areas and barges, although three barges sank in the flood. Heavier losses were sustained by the owners of cargoes such as shippers who were unable to get their grains to export elevators or to receive their imported fertilizers for the fall planting.

The Maritime Administration has worked closely with the Coast Guard, the Army Corps of Engineers, and the maritime industry to assure the swift recovery from the effects of the flood. For example, the Coast Guard and industry representatives worked with the Corps to extend the navigation season until December 1 of this year, or as late as the weather will permit. By releasing water from the reservoirs it maintains throughout the midwest, the Corps can increase the depth of midwestern rivers and compensate for the falling water levels that occur during the fall.

Briefly, with regard to the Federal Highway Administration's emergency relief program, it is administered by State highway agencies in coordination with local jurisdictions where Federal-aid highways were damaged by the floods. Thus, by its very nature, our response effort ensures a high level of State and local input.

Emergency relief funds are available to repair and reconstruct Federal-aid highways and roads on the Federal lands. Under the Emergency Supplemental Appropriations Act we received $100 million in emergency relief funds as well as a contingency of $75 million. As of October 1 of this year, our emergency relief program authorization provided another $100 million. To date, we have allocated something in excess of $103 million to all of the nine States combined.

The cost of repairing highways not designated as Federal-aid routes and not on Federal lands may be eligible for funds through FEMA. And we have worked very closely with FEMA to assist them in their damage estimates and projects of that nature.

Let me close now because, while I do have other comments here, but I know that the committee would like to ask questions of the individuals before you. At this time, I would like to return to the chairman for the purpose of receiving questions from members of the committee.

Thank you.

Mr. BORSKI. Thank you very much, Mr. Administrator.

Mr. Slater, there has been some concern on the part of the States that full damage to infrastructure from the flooding may not be apparent for some time because of saturated road bases and underlying ground. Does the 180-day limit on emergency relief assistance allow you to fully assess the damages from the flood?

Mr. SLATER. It does, and there are really two ways for us to look at that.

First of all, regarding the 180 days in which States can receive the higher Federal share—we want to look at it as liberally as we can. That period has not passed for any of the States, yet they have been able to make some damage estimates thus far. They will continue to make damage estimates as the waters recede. We will respond in kind.

If we get to a point where we are far beyond the 180 days, that may not be bad because it allows for consideration of the impacts of continued rains. Because the grounds are saturated, we may have additional flooding. If we can pinpoint a period in time where the additional rains cause new flooding, then we may have the 180-day period start again as it relates to the later rainfall.

We are going to look at it in a very open and objective way and we are going to remain true to our commitment to respond to the needs of the States as best we can.

Mr. BORSKI. Is there effective coordination with FEMA as well as transit systems?

Mr. SLATER. There is. As a matter of fact, what we did during the course of the flooding was to work very closely with FEMA and very closely with State and local officials in making damage estimates. Even though resources to repair damages may come from different pots—from FEMA when it comes to local roads or minor rural collectors and then from the FHWA when it comes to roads on Federal-aid routes or on Federal lands—we worked with FEMA to make some of the damage estimates so that the States did not have to go through that process twice. We, then, after getting the damage estimates, made the determinations as to what pot was the

most appropriate pot for funding the repairs after those estimates were submitted to us.

So again, it was our intent to cut through the red tape and be as responsive as possible. The coordination has been excellent.

Mr. Tidball, would you care to comment on that?

Mr. TIDBALL. Just to echo what Mr. Slater has said, sir.

We had offices set up in each of the nine States that are declared, our disaster field offices. The Department of Transportation had individuals in each of those centers as well as our center here. In fact, we use people from the Federal Highway Administration when we make our damage survey reports for that damage that might be eligible for FEMA assistance.

So the cooperation is excellent with the Federal Highway Administration and FEMA.

Mr. BORSKI. Mr. Slater, you mentioned in your testimony that the Federal Transit Administration has no emergency fund to assist transit agencies after natural disasters.

Mr. SLATER. That is correct.

Mr. BORSKI. Rather than set up a separate emergency fund for transit, do you think it would make more sense to broaden existing authority to allow for an intermodal emergency transportation fund?

Mr. SLATER. I would say that that would be a very reasonable response. There has not been a discussion within the Department on that question, but I would think that as we have come closer together as a Department, as we have carried forth the message of intermodalism, this would be an example of taking that concept and making it a reality.

Mr. BORSKI. I know how well you work with Mr. Linton and you are to be commended on that.

Let me yield to the distinguished ranking member.

Mr. INHOFE. Thank you very much, Mr. Chairman.

Mr. Slater, I am one of your fans and have watched you work.

Mr. SLATER. Thank you very much.

Mr. INHOFE. In case the panel here doesn't understand why I know so much about Arkansas, three of my kids graduated from there and one of my daughters teaches at the university, so I keep up on you guys. [Laughter.]

Mr. INHOFE. In your testimony, you talk about the fact that the States can begin getting reimbursement for some of the work they have done. But I hear all kinds of figures. Can you give us an idea of what this is ultimately going to cost in terms of reimbursement for work the States have done?

Mr. SLATER. As I noted earlier, we have already responded to the requests of States in the total amount of approximately $103 million. We anticipate that there will probably be estimates that will come in that will total in the neighborhood of an additional $30 million to $40 million.

We do have to be sensitive to the fact, though, that we continue to have rains in the area. But because of the decision that was made by you, the Members of Congress, to give us the resources in the supplemental appropriations bill, we believe we will be able to cover any damage estimates that come in.

Mr. INHOFE. That is good.

Admiral Ecker, in addition to being on this committee, I am on Merchant Marine Committee and the Coast Guard Subcommittee. I always marvel at how you guys get your assets moved around where these problems occur—I remember going through the Exxon Valdez incident.

What types of assets were you able to get in to work in these areas when the disaster occurred? Do you feel you were adequately able to get them in to do the job you did?

Admiral ECKER. Let me first start out by mentioning that we have an infrastructure that is in place on the rivers already. That infrastructure consists of vessels, support bases, and also communications. So in terms of being on the scene, we had a head start because we were there already.

We were able to utilize those assets and pull them together organizationally in accordance with our operating plans, which we follow in these emergency situations. We created at the two major centers of activity in St. Louis at the marine safety office and again in Paducah, Kentucky what we call our Commander Coast Guard Forces, which is a single command which brings all of the aircraft, all the boats, all the Coast Guard auxiliary, all the reserves, and our civilian folks under one unit. That command and control structure was the main element that responded to activities on the river.

So in that respect, we had a head start.

Mr. INHOFE. So your equipment was there and you didn't have to bring a lot in from other areas?

Admiral ECKER. That is correct. We supplemented equipment from outside, but the basic response activity consists of equipment that is already pre-positioned in the district.

For example, you have probably seen on television the small red flood punts carrying Coast Guard people in flooded areas. Those are resources that are permanently located in river areas specifically to be able to respond to conditions such as we saw this summer.

Mr. INHOFE. You, of course, are aware of—with all the budget constraints—the discussion that has been going on as to where the assets should be and the availability. I think probably you did a lot to show that you did this according to plans and right by the book and apparently did a very good job in your response.

So you would say that you had adequate equipment to take care of the problem as it came up?

Admiral ECKER. Being able to supplement the cadre of Coast Guard people, the regulars that are stationed within the district and on the rivers, with reserve personnel from outside the district and from other units within the district—which again is in accordance with our operating plans—we were able to cope and respond in sufficient numbers for the emergencies that we faced.

Mr. INHOFE. How about your auxiliary? Was that activated?

Admiral ECKER. The auxiliary is a wonderful organization of volunteers. They will do just about anything we ask them to, provided we don't put them in harm's way. They responded with about 200 personnel, both on the water in responding to areas where our communications were lost—they came in and filled-in with temporary on-site facilities. They assisted us in numerous ways both on the

water and in some of our command stations monitoring radios and so forth. It is a wonderful organization.

Mr. INHOFE. Well, I think the plan was beautifully executed. My compliments to both of you.

Mr. BORSKI. The gentleman from Illinois, Mr. Poshard?

Mr. POSHARD. Thank you, Mr. Chairman.

Just a quick question for Mr. Slater.

I was interested—because we do have several bridges that were affected up and down the Mississippi and on some of the subsidiary rivers—you do have ongoing inspection for safety purposes of those bridges now, right? And can we assure the public that the inspections have determined that those bridges are safe at this point in time?

Mr. SLATER. We can. As the waters receded we did an inspection along the Mississippi and Missouri Rivers. We continue to go back and inspect the bridges. We feel very good about their soundness at this time.

Mr. POSHARD. But have there been any major structural defects at this point in time that anybody should be worried about?

Mr. SLATER. In some instances, we did see some scouring, which is some erosion under the bridge, but we were able to start the process of repairing the bridges where that was the case. In some instances, we did find some damage, but we are working with the States to respond.

Mr. POSHARD. Thank you, sir.

Mr. BORSKI. The gentlewoman from Missouri, Ms. Danner?

Ms. DANNER. Mr. Chairman, I have no questions of these witnesses. I will save my questions for later witnesses. Thank you.

Mr. BORSKI. The gentleman from Illinois, Mr. Costello?

Mr. COSTELLO. Thank you, Mr. Chairman.

Mr. Slater, I, too, would compliment you on your response during the disaster. I spoke with representatives from the Illinois Department of Transportation and they had nothing but good things to say about the cooperation with the Federal Highway Administration.

You mentioned that as of October of this year you have made disbursements in the amount of $103 million to date. When would you expect to make further disbursements? When can the State of Illinois and other States affected that have submitted requests for funds to your Department expect the next disbursement?

Mr. SLATER. Let me say at the outset that one reason we were able to make the payments that we have already made is because the States responded by providing preliminary estimates rather than waiting for all the waters to recede, which was good. We were able to respond quickly.

As soon as we get the estimates, it has generally taken in the past 2 to 3 weeks to release funds. We have cut the processing time down to 1 week. So as soon as we get them in, as soon as our division office makes an assessment of the request and forwards that to us, we respond expeditiously. So I would say that it would depend upon when we receive the damage estimates from the States.

We also work with the States in the preparation of those damage estimates, so we have a good sense of how the process is moving along.

Mr. COSTELLO. Let me follow up on the chairman's point about the 180-day limit in the assessment process.

Are there provisions to go beyond that limit?

Mr. SLATER. The provision that governs our actions under that kind of situation basically says that for the first 180 days we respond to 100 percent of the damage and fund 100 percent of the cost to repair the damage. After that point, depending upon the character of the roadway—whether it is on the Interstate System or on another Federal-aid route—we either respond with 90 percent on the interstate system or 80 percent on Federal-aid routes not on the interstate system.

Again, when you are looking at a situation involving flooding, it is a little difficult to determine when the 180 days actually begin and end because there is the continuous raining, as has been the case in certain parts of the midwest.

We will have to make a judgment on a case-by-case basis after we get beyond the 180 days as we would generally view it. Meaning, we would have to determine whether there were rains of a sufficient amount to be viewed as a continuation of the flooding, or whether those rains were significant enough as to cause additional flooding, thus causing a new period to begin.

We are going to view it as liberally, as reasonably and as objectively as we can because we want to be responsive. We want to be partners with the States throughout this process. We, too, have been touched by the courage and the resilience evidenced by those who have had to deal with this catastrophe. We want to be responsive. That is our job as public servants and we are going to do that.

Mr. COSTELLO. So the States can rest assured that there is flexibility?

Mr. SLATER. Yes.

Mr. COSTELLO. One final point is the concept of an intermodal emergency fund to respond to disasters. I would hope, as the chairman pointed out, that you would go back and follow up with that. I think it is an excellent idea and would be most helpful in the future.

Mr. SLATER. Okay.

Mr. COSTELLO. I have one question for Admiral Ecker.

Admiral, I understand that your United States Coast Guard facility in St. Louis was extensively damaged in the flood. Is that correct?

Admiral ECKER. It disappeared for a while.

Mr. COSTELLO. I have been in touch with the commander at that facility and I understand that you are in the process of attempting to determine how you are going to operate in the future, if in fact the facility will be relocated or what options are available.

I wonder where we are in the process right now in respect to that facility.

Admiral ECKER. We are looking at the very real possibilities of relocating the facility. We really had several facilities—as Mr. Slater mentioned in his opening remarks, we had the unit in Keokuk as well as the one in Leavenworth damaged by floodwaters.

We have looked at combining the Keokuk operation at the group with the base in St. Louis into one facility. That proposal is taking

on a little more realism now because of what happened to both of those facilities.

We also have a little bit of a contaminated ground, if you will, in the St. Louis area. There are a lot of facilities there, so we have some environmental concerns that preclude a great deal of additional construction at that site. We are very seriously looking at relocating the St. Louis base to another location within the greater St. Louis area and possibly bringing down the command structure for our unit in Keokuk, while keeping the buoy operation on the river in that location.

Mr. COSTELLO. Do you have a time schedule relative to a decision concerning the relocation?

Admiral ECKER. I would think the decision would probably be made within the next 6 months. We need to do it, and we need to move on it because it is important to our daily operations.

Mr. COSTELLO. Thank you, Mr. Chairman.

Mr. BORSKI. The Chair thanks the gentleman.

Mr. Slater, to what extent have delays in levee repairs resulted in delays to roadway repairs?

Mr. SLATER. There has been no extensive delay. It is appropriate that the levee repair considerations that are now underway be given full and comprehensive study and debate. As Mr. James Lee Witt said earlier, we have learned a lot from this flood and for us to be about the business of doing as we have always done would not be to take advantage of the lessons learned.

So while there are ongoing considerations regarding levee repairs, to this point that has not affected our abilities to move forth in opening up the roadways and doing the kinds of damage assessments that are necessary. If some determination is made that they might be altered, then that would definitely impact us. We are ready to deal with that should that decision be made.

Mr. BORSKI. Ms. McMurray, what was RSPA's role in coordinating emergency response between the different transportation modes?

Ms. MCMURRAY. RSPA is the Secretary's staff arm for implementing any disaster response efforts. We work very closely with FEMA and the other Federal agencies to present a concerted and coordinated front to disaster victims. The Secretary and Mr. Witt met very early on in the Administration to explore opportunities for strengthening the ties between our two organizations. We have nothing but praise and kudos to laud upon FEMA. FEMA executed its putting-people-first initiative under President Clinton as a paramount goal. I think the proof was in the pudding.

One of the things the Department did do early on was brief the Secretary about the role of emergency preparedness. As Mr. Slater stated in his opening testimony, the Secretary took emergency response very, very seriously. He directed that the Department do everything it could humanly do to assist victims of all types of emergencies in addition to the flood.

Right now we are working with FEMA on the California brush fire situation and monitoring that very closely. In fact, the Federal Aviation Administration is transporting Mr. Witt to the scene. We stand prepared to help in any way we can.

Mr. BORSKI. Admiral Ecker, can you evaluate the coordination among Federal agencies in the Federal response effort, the role played by the Coast Guard, and how the overall effort differed from previous disaster responses?

Admiral ECKER. We interact in a great many areas with other agencies. We interact with the EPA with respect to pollution response activities. We interact with the Corps of Engineers relative to daily operations on the waterways. We had contact with the disaster field offices and we were in the local communities with some of the emergency operating centers.

So from the point of view of the units that we had in the field, our disaster recovery units, we were interacting at a number of levels.

While on this particular subject—and I know General Williams with the Corps is going to be up next—I would like to point out what I think is very much of a success story relative to Government agency cooperation as well as Government/private sector cooperation. That has to do with the reconstitution of the waterways themselves.

The Corps, the Coast Guard, and the industry established, in our headquarters in St. Louis, an operations center which was manned 24 hours a day. That center was there for the purpose of providing information and assisting in the decision making process relative to how we were going to open up the rivers.

That cooperation really was born back in the low water days of 1988 and 1989 and it has continued through this day. I think that is an excellent example of how to get together to discuss problems and implement solutions for the good of all concerned. We were very concerned with the state of the levees when towboats would begin moving on the rivers, and we were concerned for the impact on the local communities. The last thing everyone wanted was to have another levee failure brought about by a towboat on the river.

The fact that it was done very successfully—it was done in a coordinated manner—it was done in a manner to facilitate transportation and getting these companies back moving their cargoes, and recovering from their losses. I think that speaks very well for the total cooperation of the Government and the private sector in that particular endeavor.

Mr. BORSKI. Admiral Ecker, did the Coast Guard have sufficient resources to cope with the long-lasting flood of the magnitude of this past summer? How did the size and duration of the flood affect the Coast Guard's resources and infrastructure?

Admiral ECKER. There is no question that we were stretched to the limit. We brought in resources from outside, as I described earlier. What we did not have in the second district was air assets. We brought Coast Guard air assets in from about six air stations on the Great Lakes, the Gulf, and the East Coast.

I think the fact that we can rapidly bring aboard reserve elements—we have the Coast Guard auxiliary that I mentioned earlier—I would say that these elements all brought together under a single command and control structure, as per the plan, was what kept us going and sustained us during this very extensive duration.

We brought reserves on board and sent them home back to their civilian jobs and then we brought additional reserves on. The ability to sustain that type of force was very effective.

Mr. BORSKI. The Chair recognizes the gentleman from Florida, Mr. Mica.

Mr. MICA. Thank you, Mr. Chairman, for allowing me a moment to ask a few questions.

I know the hearing deals primarily with the flood disasters in the midwest, but coming from the State of Florida we have experienced some natural disasters, and we had an experience with Hugo and I had an opportunity to sit in on another hearing dealing with the response of FEMA.

I wanted to ask a couple of questions. I am delighted to see Mr. Slater here who is doing an excellent job as our Federal Highway Administrator. I am real proud of what you have been able to accomplish in a short time.

My question deals with the Federal agency and FEMA's ability to respond from a communications standpoint in a disaster.

With FEMA, as you know, it was primarily set up for military situations or a potential military conflict or disaster. Now that the world situation has changed, we have those tremendous resources. Some of those are communications.

In Hugo, there were problems with delays in communications between local agencies and Federal agencies and then Federal agency to Federal agency. I am wondering if you are seeing in the latest example of the flooding—is there an improvement? Is there ability now? Do you see a trend of FEMA working together with other agencies and local authorities so that we can communicate to each other with the former resources of FEMA that had a different mission?

If you could respond, I would appreciate it.

Mr. TIDBALL. Mr. Mica, I am Bill Tidball, chief of staff at FEMA.

First of all, I will respond and then perhaps Mr. Slater would like to respond as well.

Mr. Witt in the last week, as a matter of fact, announced the reorganization of FEMA, which has changed in view of many of the things FEMA has done in the past and the responsibilities. He has changed the organization of FEMA from a program oriented organization to a functional organization, which makes available all the assets of FEMA across the board to any kind of emergency that we might have. Mr. Witt's purpose is that of putting people first and people serving people is what we are about.

I believe that the midwest flood showed an early signal of how we were going to provide all those assets we have available to us in dealing directly with those problems of the people. Of course, that involves us working closely with State and local governments and communicating directly with them, as we did on a daily basis with conference calls which involved not only representatives from the governor's offices, but also our field offices out there, as well all the other Federal agencies. So we did this on a routine basis at least daily and throughout the disaster our nine disaster field offices that we had out there as well.

Mr. MICA. The Corps and maybe the Highway Administration—could you respond? What are you seeing? Not just organization-

ally—that is important—but also equipment and things of that sort. Are you seeing those resources come to you? Do we have a plan?

Mr. SLATER. We do, Congressman.

Since Ms. McMurray was head of our Department response effort, I would like to ask her to respond to that particular question.

Ms. MCMURRAY. I think some of the reforms that Mr. Tidball alludes to were enacted and implemented during the flood effort. I think during the Hurricane Hugo experience—and I was on the periphery of that response during that time—the devastation and the quick, if you will, results of that natural disaster I think stretched FEMA or would stretch any agency to respond and be able to set up quick communications.

The flood, by contrast, was a sort of slow-moving natural disaster. FEMA and the rest of the Federal agencies had a better opportunity to place communications equipment in strategic locations. As Mr. Tidball mentioned, the process of having daily conference calls with the Federal agencies went quite a way to allow coordination. I think FEMA is on the right track with this reorganization.

With respect to telecommunications equipment, we in the Department are struggling right now with an examination of how we might strengthen our ability to respond to future disasters. We are looking at ways of remotely accessing two of our operational programs—the FAA and the Coast Guard—so that the Secretary might avail himself of a better use of that technology. Geographical information systems, for example, would be very helpful to us in pinpointing the disaster site as well as determining what transportation resources could be brought to bear on the problem.

So I think there are a number of fronts that we can move out on both within each Federal agency as well as FEMA to try to maximize the exchange of information, because that is very key in responding to a disaster.

Mr. MICA. Hugo was a learning experience. The floods were another learning experience. But I really think it is important—this communications, the equipment, the ability to respond—because you can have another disaster if you don't have that ability to respond.

For FEMA, my charge is to come back to the Congress or keep us posted on the ability to communicate not only between agencies but also from the disaster point. I think we have learned that is an essential factor and something we need to change gears and address.

I appreciate your testimony today and your hard work and yield back.

Thank you, Mr. Chairman.

Mr. BORSKI. The Chair thanks the gentleman.

Mr. Tidball, how well prepared were the States for the flooding disaster, and what can we do to make the States better prepared?

Mr. TIDBALL. I would say that the midwest States were pretty well prepared to deal with the situation. One of the things to our advantage in this particular case, of course, was just mentioned, that the flood was a slow-rising effect so that we had the time to do the kind of organizational planning and working closely with them that is not possible in a tornado or hurricane type situation.

I would also say that Mr. Witt comes from a State-level organization, so he understands the type of planning assistance that is required from the State and Federal level. Those are the types of approaches that we are working on now to be better able to work with them and support their efforts in being prepared.

Mr. SLATER. Mr. Chairman, can I add just one thing here?

Mr. BORSKI. Sure.

Mr. SLATER. I think that the Department of Transportation is also assisted by the Federal Highway Administration having division offices in each State. Because of the tradition of those personnel of the United States Department of Transportation working hand-in-hand with those at the State level, that comes into play in an emergency situation. So, clearly, we were able to benefit from that infrastructure already being in place, those relationships already being in place.

Mr. BORSKI. Mr. Tidball, the eligibility criteria for your buy-out program has been described as being in a state of change. Do you think your guidance to the States is adequate to allow them to prepare grant applications?

Mr. TIDBALL. Sir, as we testified yesterday before the committee, it is in a state of change. But I believe the people who need to utilize the resources that are available for the buy-out program are getting the information that they need. We are working closely with all the agencies that are involved with this—whether it is the Department of Agriculture, Housing and Urban Development—whoever it might be—and we have teams in each of the States working very closely with the State and local communities that have expressed interest in this. I believe those guidelines right now are clear to them.

Mr. BORSKI. Are there other questions from members of the subcommittee?

Mr. COSTELLO. Mr. Tidball, I said that I would submit questions to Mr. Witt, and I will, but I can't miss the opportunity to ask you at least one question.

In the community of Prairie du Rocher, Illinois in Randolph County, Director Witt and others were kind enough to come into that community during the flood.

There was a levee just north of Prairie du Rocher, Illinois that was purposely breached—intentionally breached—to save the community of Prairie du Rocher. As a result, when the breach took place, of course, the water came through and flooded out many structures and farms in the area.

Because of the extenuating circumstances that a decision was made to purposely breach the levee, are there any provisions within FEMA, or have you discussed with the Corps of Engineers because of the special circumstances, the damage that resulted because of an intentional breach? Can we provide funds to those property owners that sustained damage as a result of that breach?

Mr. TIDBALL. I know that you know we have had numerous conversations with the Corps of Engineers and others on this type of problem. Of course, there were several others that were like this.

Those people were damaged, and the assistance that is available to people who are damaged by the flood waters out there basically is the same. So we were able to provide those people with grants

and temporary housing and those types of things just as if it was normal kind of flooding that occurred.

Mr. COSTELLO. Many of the people, of course, did not have flood insurance. Of course, their contention is that they would not have sustained damage had the decision not been to intentionally make the breach. It seems to me that there ought to be special consideration given to those individuals who sustained damage.

Are you following up with that, or are you just going to treat those individuals as other flood victims?

Mr. TIDBALL. Sir, the individuals themselves, as far as our disaster assistance—they are being treated basically the same.

I think your question probably relates to the whole flood insurance issue and whether or not they have flood insurance, the availability of flood insurance, and whether they felt they ought to have flood insurance because they live behind the levee. That is something that we are in the process of working on with a couple of other committees in terms of looking at the flood insurance programs and making the modifications to those for that consideration.

Mr. COSTELLO. We will consider to pursue that question with you and with the Corps.

Thank you.

Mr. BORSKI. There being no further questions, we want to thank our panelists very much, not just for your cooperation and testimony today but for the outstanding job each of your agencies did in this disaster.

We would like to welcome our third witness today, Lieutenant General Arthur E. Williams, Commander, United States Army Corps of Engineers. General Williams is accompanied by Major General Stanley Genega, Director of Civil Works, United States Army Corps of Engineers.

[Witnesses sworn.]

Mr. BORSKI. General Williams.

TESTIMONY OF LT. GEN. ARTHUR E. WILLIAMS, COMMANDER, U.S. ARMY CORPS OF ENGINEERS, ACCOMPANIED BY MAJ. GEN. STANLEY GENEGA, DIRECTOR OF CIVIL WORKS, U.S. ARMY CORPS OF ENGINEERS

General WILLIAMS. Mr. Chairman and members of the subcommittee, I am here today to testify on the role of the Army Corps of Engineers' Federal response to the flooding disaster which occurred in the midwest this past summer.

Accompanying me is Major General Stanley Genega, my Director of Civil Works.

Mr. Chairman, to save some time, I have condensed my oral statement but would offer my prepared statement for the record.

Mr. BORSKI. Without objection, your prepared statement will appear in the record.

General WILLIAMS. As we have discussed during this hearing and yesterday's hearing, the flood of 1993 was a very significant event. Above normal precipitation occurred through most of the region for a few month's prior to the actual flood event. When the persistent storms came in June and July, the intense rain rapidly ran off the saturated soils and into the already swollen streams and rivers,

thereby causing them to rise above the channel banks and onto the adjacent flood plains.

The flooding exceeded all previous record high levels at many locations. New record flood stages were established in many areas. Extensive damage occurred to farmlands and urban areas as levees either over-topped or breached. For weeks the entire upper and middle reaches of the Mississippi River and the major portion of the navigable reach of the Missouri River were either closed to commercial navigation or restricted to limited navigation.

Corps flood control reservoirs were filled to record capacities, many reaching levels several feet above the spillway crest. But all the reservoirs continued to operate as designed throughout the flood.

The Corps has constructed and operates a vast flood control infrastructure in the upper Mississippi River basin. This consists of 72 dam and reservoir projects and over 200 flood control structures, including levees, flood walls, pumping plants, and diversion structures. Additional flood control structures have been built by other Federal agencies and numerous non-Federal public and private interests.

The Corps maintains reservoir control centers in each district and division office. Each center is staffed with hydrologic and hydraulic engineers who manage the control of water at our projects. Each reservoir in the system has a water control plan which specifies how water will be stored and released under a variety of hydrologic conditions.

In early May, before the heavy rains began to fall on an almost daily basis, the reservoirs were at low levels in accordance with their operation plans. Then, under flood conditions, flood waters were impounded in the reservoirs and later released in a controlled manner to minimize the impact downstream. Once a flood crest was reached, we released the flood waters as quickly as possible without adding to the crest downstream.

The Federal navigation system in the upper Mississippi River basin is vitally important to the economy of the Nation. Flood conditions forced locks to close and essentially stopped navigation from June through August. As an example of the impacts of navigation, approximately 8 million tons of cargo normally passes through lock 27, which is near St. Louis, during the month of July. This year, the total tons of cargo for July was zero.

I believe the Corps projects operated as they were designed during the flood. However, many of the projects did suffer damage. Recreation facilities were flooded, water control structures suffered erosion, and navigation channels were silted in. The total damages to Corps owned and operated projects due to the flood of 1993 is estimated to be about $100 million.

There are other costs related to the flooding and associated with the Corps programs. Based on preliminary estimates, Congress provided up to $180 million in the fiscal year 1993 emergency supplemental appropriation to rehabilitate damaged flood control works under the Public Law 84–99 rehabilitation program.

We must recognize in many of the areas the flood waters are only now receding to the point where we can determine the dam-

ages. We are currently reviewing our estimates to determine how best to allocate the remaining resources for the remaining needs.

The Army Corps of Engineers has two basic emergency authorities which allow us to prepare for and respond to flood events. These authorities are the Flood Control and Coastal Emergency Act, or Public Law 84–99, as we know it, and the Robert Stafford Disaster and Emergency Assistance Act.

Inherent in these Federal laws is the principle that emergency response and assistance is primarily the responsibility of the local and State governments. The Federal role is to assist these entities when their resources are no longer adequate to respond to the crisis.

Three of our Corps of Engineers divisions and six Corps districts, as well as our Corps headquarters, have responded to the flood. Each Corps district and division has an office of emergency management responsible for providing the resources and plans necessary to respond to the emergencies. When this flood hit the midwest, the emergency operation centers at each affected office, as well as our headquarters here in Washington, D.C., was activated and the emergency management staff was supplemented by engineers, real estate specialists, communication experts, personnel specialists, and a host of other professionals.

As the magnitude of this event became clear, I directed establishment of a coordinating office to oversee the levee rehabilitation activities of the Corps divisions directly involved with the flood. That office, which I called the Deputy Director of Civil Works Forward, was located in St. Louis and was headed by Major General Al Genetti, who is our Ohio River Division engineering commander. On 17 September, after having set our recovery policies and procedures in place, that office was phased out.

Under the authority of our Public Law 84–99, the Corps assists State and local agencies with planning and flood fighting. As early as June we began to distribute what would eventually be over 31 million sandbags and over 400 pumps to aid local communities in the flood fight.

In early July we began contracting with private construction firms throughout the midwest to reinforce certain levees within the Corps program. By working closely with the levee districts, local and State officials, and other Federal agencies, the Corps was prepared to respond to the midwest flooding.

Once the Federal Emergency Management Agency activated their Federal Response Plan on July 11th, the Corps began to fulfill FEMA missions under the Stafford Act as well. The Corps performed FEMA missions such as providing damage surveys, generators, pumps, portable toilets, installing culverts, and supplying potable water. A significant water supply mission was the hauling and storage of potable water for the people of Des Moines when their water treatment plant was flooded out. We also assisted in the rehabilitation of their water treatment plant, which services approximately 250,000.

We have completed or are currently working on 29 FEMA projects in seven different States. These FEMA projects have a total value of almost $17 million.

Before and during this flood emergency, the Corps coordinated and exchanged data with several Federal agencies involved in navigation, weather, and emergency management. Most notable were the United States Coast Guard, the United States Geological Survey, the Bureau of Reclamation, the National Weather Service, and the Federal Emergency Management Agency.

For the activation of the Federal Response Plan, we immediately provided staff to the public works and engineering desk at the FEMA national headquarters, at the regional operation centers, and the State emergency operation centers. Corps representatives were also assigned to FEMA's disaster field offices. We also worked closely with a number of support agencies, namely the Environmental Protection Agency, United States Public Health Service, General Services Administration, and the Departments of Transportation, Interior, and Agriculture.

We are especially pleased with the results of the efforts to reopen the navigation system of the upper Mississippi River basin as quickly as possible. There was concern that the wake of passing tows would further damage the stability of the weakened levees along the river.

On July 19th, the Corps met with the River Industry Executive Task Force to develop a protocol for reopening the waterways. A few minutes ago Admiral Ecker referred to this effort. This group consists of representatives from the towing industry, the Corps, and the Coast Guard.

The protocol called for test tows to descend the rivers to determine if wave action could cause additional damage to the levees. Local levee district representatives were invited to ride the test tows to observe the effects of the commercial traffic.

Test tows began on August 19th and were completed by August 23rd. The result of the test tows was that a coordinated, cooperative decision was made early the following week to open the rivers to navigation. The navigation industry is to be commended for its cooperative effort with the levee districts and local officials to ensure that no additional flooding or erosion was caused by their tows on the river.

Before closing, I would like to briefly summarize my reflection on our flood response phase.

We have already begun the review of our actions both under our own public authority, Public 84–99 and the work that we have done with the Federal Emergency Management Agency under the Federal Response Plan. This is happening even as 1,000 Corps people remain involved in the recovery and rehabilitation. Our present goal is to have all the levee repairs completed by December of 1994. In addition, we are providing opportunities for local levee owners to take advantage of available programs which provide for nonstructural alternatives to levee repairs.

We have already determined that the Director of Civil Works Forward concept was a success. Not only was that office able to coordinate implementation of policy, it was a one-stop information office that elected officials and Members of Congress could contact for specific information.

Through our forward public affairs office, information affecting the entire area was made available to citizens and the media in the

midwest. We were thus able to increase the Corps' responsiveness with those most affected by the flooding and its impact.

On the engineering and technology front, we also recognize the need for a better computer model to simulate the flows of the Mississippi and Missouri rivers and their tributaries. We are already embarking on the development of that model and plan to coordinate it with the National Weather Service in its development. This flood also evidenced the need to develop automated means for the exchange of water data within the Corps and among the Federal agencies on a real-time basis.

A number of things worked well during the flood. Corps flood control projects consisting of reservoirs and levees worked as designed and withstood the test of the flood. Water control plans for the reservoirs were very beneficial in guiding our response to these unprecedented conditions. Emergency operation centers functioned very well during the crisis and provided timely response to a variety of needs in the affected area.

The River Industry Executive Task Force worked extremely well and illustrated the benefits of government and industry cooperation. Our Corps volunteer program was also a great success and provided a pool of over 1,000 trained individuals from across the Corps who were willing to go to the stricken area and join in the flood fight.

In closing, Mr. Chairman, I would like to take this opportunity to recognize the heroic efforts of the local communities and the citizens, the State governments, the National Guard units were real heroes, and all the Federal agencies which participated in the flood-fighting activities this summer. The Corps of Engineers is proud to have been a part of that effort and we stand ready to assist in the future.

Mr. Chairman, that concludes my statement. General Genega and I will be happy to answer any questions that you and your subcommittee members may have.

Mr. BORSKI. Thank you very much, General.

General Williams, can you tell me what effect the Corps' attempt to balance the requirements for navigation, recreation, environmental protection, and flood control had on its watershed management decisions during the flooding?

General WILLIAMS. Mr. Chairman, let me try to attack that from two different project perspectives.

As you know, we have many upstream reservoirs which are multi-purpose in nature. All of them have flood control storage. Many of them are multi-purpose in regards to also having water supply storage conservation, also supply water for navigation, hydropower, recreation, and so forth.

We tried to take into consideration all those purposes for those reservoirs and the control plan that we have allows us to do that. So we did take those into consideration in our daily deliberations.

On the navigation part of the system, likewise we held similar discussions in regard to the navigation impacts. Shortly into the flood, as you well remember, the navigation system became closed and the water was freewheeling, so to speak, down the river. We did take into consideration the navigation versus the flood control once the flood had crested, and we worked with industry in regards

to how we would open up navigation, but not at the expense of damaging the saturated levees, the flood control levees.

Mr. BORSKI. General, you referenced yesterday's hearing. In yesterday's hearing, someone mentioned the leased cabin sites. Can you tell us a little bit about that? How much damage was there to leased cabin sites? How much might it cost to repair them? Should that be a Federal responsibility?

General WILLIAMS. We have individuals who have leased cabins along the river, in many cases inside the water side of the levees. Many of those facilities have been damaged. We are now in the process of looking at that to determine whether or not we will lease property for people to build back in those areas.

I do not know the extent of the damage at this time. That issue is one we are looking at right now.

Mr. BORSKI. If repairs are to be made, does the Federal Government make them, or is it the individuals who are leasing the cabins?

General WILLIAMS. No, sir, that is not a Federal Government expense.

Mr. BORSKI. General Williams, following FEMA's activation of the Federal Response Plan on July 11th, how would you evaluate the coordination and the response among Federal agencies and within State and local agencies?

General WILLIAMS. I would categorize the response and the coordination as being very good. I have been associated with various Corps assignments now for 15 years and have been working closely with FEMA now for 15 years. This past year with Hurricane Andrew, Iniki, and the midwest floods, I would say that the cooperation and coordination has been outstanding and better than I have seen in past years.

Mr. BORSKI. Can you tell us, General, has the Corps' review of the Federal response shown any areas in which things should have been done differently or in which there is significant room for improvement?

General WILLIAMS. Under the Federal Response Plan, the emergency response number three, which deals with public works and engineering, is the one where the Corps of Engineers has the lead in that plan. That part of the plan was put into effect for this particular disaster. I think it worked very well. It is a situation where we continue to go back in after every event and reevaluate that. We are in the process of doing that right now.

Nothing pops out at this point in time that needs immediate attention.

Mr. BORSKI. General, does the Corps anticipate requesting additional funds for levee repair?

General WILLIAMS. At this moment, we have not requested any additional funds beyond the 1993 supplemental. We received $180 million to date. We have obligated in the vicinity of about $100 million. The remaining $80 million will be used to repair the levees. In many cases, the water has not receded far enough for us to go in and make the final estimates. That is one of the reasons we have not obligated the remaining $80 million. It is still a little early to determine whether or not the $180 million will be suffi-

cient to do the repair under the Public Law 84–99. So that will be an ongoing effort.

Mr. BORSKI. We have heard estimates that may be as much as $250 million that would be needed.

General WILLIAMS. Maybe General Genega can address that.

General GENEGA. Yes, sir, $250 million is a rough estimate at the moment, but it is rough, as General Williams mentioned, because there are so many additional repairs on this last portion that just recently came out from under water.

Mr. BORSKI. Thank you, sir.

Mr. Inhofe.

Mr. INHOFE. General Williams, I have a general question as to how this type of a devastating flood affects the waterway downstream. I am specifically thinking of a problem that is there right now with which you are very familiar—maybe some of the rest on this panel are not—and that is Montgomery Point, which is at the confluence of White River, Arkansas River, and the Mississippi River.

Already, there is a problem that exists down there in terms of their water. When it does finally go down, is there any siltage or anything that reaches us that far south of the flood area that might cause some additional problems to those which we already have there?

General WILLIAMS. Yes, I am very familiar with that particular project. I don't know whether or not there is a silting problem that will be occurring at that point as a result of the flood. But regardless of whether we have had the problem or not, if there is a silting problem down there, then we will take care of it through our maintenance dredging.

Mr. INHOFE. There is one big political problem that you folks have that is always hard to deal with. When I was mayor of Tulsa—we have a Corps of Engineers lake that is right above the city. It is on the flood release procedures and the timing of it. You have the people up there wanting it released and the people downstream yelling and screaming. I am sure that during the course of this Ms. Danner was probably anxious to get some of this released and Mr. Costello probably wasn't as anxious. So there is always a political problem there.

Are you satisfied with the—even though you will always be criticized, depending on where the geography is—flood release procedures that were used in this particular flood?

General WILLIAMS. Yes, sir, I am. But as always, if there is a problem or a perceived problem that has been identified, then we need to go back and look at that. We have not had anything brought to our attention in this regard during this flood. There have been some frustrations of people receiving too much water and perhaps perceiving that it is a result of not holding back enough, but we have not been able to verify that.

Mr. INHOFE. I think that is more of a political problem that would exist whenever you have any type of flooding. I know that it certainly exists in our area with the Keystone Dam.

I have no further questions.

Mr. BORSKI. The gentlewoman from Missouri, Ms. Danner, questions of this panel?

Ms. DANNER. Thank you very much, Mr. Chairman. Yes, I do.

My district has suffered greatly in this flood. All 27 of my counties are declared disaster zones. But a particular problem I would like to discuss with you today is quite obviously the levees that need repairing.

First of all, I would like to go through the criteria that I understand exists for rehabilitation assistance.

Number one, it must meet engineering guidelines—these would be non-Federal levees that I have reference to—meet maintenance requirements; have a public sponsor; and agree to an 80/20 cost share. Meeting those four criteria, would a non-Federal levee qualify for assistance?

General WILLIAMS. The Public Law 84–99, which the Corps has the responsibility for administering, allows assistance after a flood event such as this to provide funds—as you stated, an 80/20 cost sharing. In order to be eligible for that type of assistance, those non-Federal levees, or private levees, would have had to have been in the Corps program, so to speak, and have complied with the criteria that you just referred to.

Ms. DANNER. My understanding is that in 1986 when the new regulations were put in place that since there were so many private levees in my district the Corps made a decision that rather than inspect them—as I understand the law did require. Is that correct?

General WILLIAMS. Yes, ma'am.

Ms. DANNER. But the Corps decided that rather than inspect they would send out a postcard asking that the postcard be returned if a levee sponsor wanted to remain in the program. Is that correct?

General WILLIAMS. My understanding of what we did back in 1986 across the country, to include your area, was that we went out as a public information drive to announce to anyone that wanted to apply for the program—if they had a private levee that they thought would be eligible for the program, they were to let us know. There was certain paperwork to be filled out, obviously. Then an inspection of the levee would take place to find out whether or not it would meet the criteria you outlined. If it did, then it would be accepted into the program.

Ms. DANNER. How did you notify these individuals or these sponsors?

General WILLIAMS. It was done several ways. There were public flyers, and public meetings were held in numerous areas. I have some copies of the public flyers that went out. There were a series of letters that went out to levee owners that we knew about. Some had already been in the program and some had not.

Ms. DANNER. In sending out these mailings—because you and I know that public flyers are very, very generalized—did you ask for a return receipt requested?

General WILLIAMS. I don't know, ma'am, but I can go back and provide that kind of information.

Ms. DANNER. You really don't know that when you sent out the letters that they were actually received by the individuals.

General WILLIAMS. I can't state that for a fact, but I can get with you later and go over some of that, if you would like.

Ms. DANNER. My understanding is that in retrospect in one of my more seriously damaged counties they know now that in going back to 1986 the notice would have in all likelihood gone to an individual who was deceased in 1986, but who was at that time the person who would have probably received the information if anyone had. I think it is logical to assume that when we send out what you and I might refer to as a mass mailing—I think 2,000 is a mass mailing—that they might not all be received. If they are not received, then I think there is a very real problem.

The other question I would have is, If the law says "inspect" is a letter adequate? Does that answer the law itself simply to send a letter and say, "Let us know," if the law says that it must be inspected?

General WILLIAMS. Let me go back to what I was referring to. There was an attempt to inform the public of the availability of assistance under Public Law 84–99. So through newspapers, public postings, and flyers in reference to establishing meetings to provide information—that is what I was referring to. In addition to that public information campaign, if you will, those people or levee districts that we were aware of we also sent out information.

So the initial attempt was to make people aware of the program. If they had a levee that they thought could be included in the program, then there was follow-up information and follow-up paperwork that you would have to apply for.

Ms. DANNER. So obviously you and I are in disagreement about the initial attempt.

Furthermore, anyone purchasing property after 1986 might not have known—indeed, would not have known—whether the persons had complied with that.

One of the points that I think is urgent the Corps of Engineers understand—and let me say that the Kansas City Corps and the Omaha Corps, the individuals there have been most helpful and we appreciate that very much—there seems to be a mind set, I fear, in this city that these levees are protecting farmland that should go back to environmental enhancement. That is what Bill Emerson has quoted this news article as saying.

I think it is very urgent that the Corps of Engineers understand that, for example, the most heavily industrialized area I represent sits behind what is called a private levee. It is not farmland. It is my most heavily industrialized area. I have one community and with up to 140 businesses that lie behind that levee and it is suffering. I have one community that has a water and sewer system protected by a private levee.

I think the mind set that may exist here about greenways and environmental enhancement needs to take into account that not all of these are farmlands.

In addition, I would suggest that we have to recognize that if we don't have some levee repair in the sixth district of Missouri, we are going to so heavily erode the tax base of my county—which means my political subdivisions, which means my school system, the entire tax structure of every single county I represent, because I am bordered on the west side of Missouri and the south side of Missouri, and all through my district by other tributary rivers, all

of which flooded—you are absolutely destroying my district if you all don't offer some help.

Now, we thought in northwest Missouri that we had all this worked out because the Corps of Engineers—the local Corps—was cooperating with us beautifully. We thought we had it all worked out. Then an infamous one-page fax from Washington, D.C. went into the district and all of a sudden everything was changed. Levees that my people thought were going to be repaired and had been told would be repaired—suddenly there was a complete reversal.

I believe in talking with other colleagues, not necessarily just from the State of Missouri—you are going to find that they experienced the same thing. So they were served by other Corps members, not the Kansas City Corps or the Omaha Division.

I think we have a very real problem. I believe that if we need more money, then we must ask for more money because we are absolutely going to destroy the State of Missouri—the northern part. The southern part is not damaged as badly as we are. Even the eastern side has many Federal levees. But for those of us in mid-Missouri and western Missouri, we will be destroyed unless the Corps changes its attitude.

Thank you, Mr. Chairman.

Mr. BORSKI. The Chair now recognizes the gentlewoman from New York.

Ms. MOLINARI. Thank you, Mr. Chairman. I am sorry that I am late—but I had another hearing upstairs. Although I was able to listen in to the Army Corps' presentation yesterday, I would just like to take a geographical opportunity to present a compliment to the Army Corps. Clearly, the damages that were sustained in my district of Staten Island during last year's nor'easter storm were absolutely infinitesimal compared to what took place in the midwest. I certainly do not intend at this point to compare those two situations.

But, under those circumstances where homes were destroyed and lives were ruined, the Army Corps continued to act in a very cooperative manner to help us repair our shoreline, and do all that was needed to do to make sure that that such dangerous effects do not occur again. So, relative to the Corps' response and suggestions for future protection in the northeast, we are very grateful.

General WILLIAMS. Thank you very much.

Mr. BORSKI. The Chair thanks the gentlewoman.

The gentleman from Illinois, Mr. Costello?

Mr. COSTELLO. Mr. Chairman, thank you.

General, I would like to first compliment Colonel Craig and your entire staff in the St. Louis region. They did an outstanding job during the disaster. Chuck Franco from your St. Louis office kept us informed almost on a daily basis as to the activities of the Corps of Engineers and other agencies responding to the flood.

I have a few questions regarding contracts that have been let by the Corps of Engineers in order to repair the damage and to reconstruct the levees on a temporary basis before next spring. I wonder, number one, with the contracts that have been let thus far, is there a date certain that contractors must stop work for the winter months? In other words, is there a particular date when they have to stop construction and then restart in the spring?

General WILLIAMS. Mr. Costello, I don't think we have a certain date that we must stop. I think our contracts were let with the understanding that, depending on exactly where the work was being done, the cold weather would set in and that sooner or later whenever that occurred we would have to stop the construction.

So I am not aware that we have set specific dates. I would think that the contracts refer to the construction season or the weather. That is the problem that we are facing throughout the entire area.

In those upstream flooded areas, obviously the water went down faster, and we were able to get in there, make the estimates, and then put those under construction sooner. In many of the areas, the water is still not low enough to go in and do the estimates and let the contracts.

So our philosophy and our intent is to go in and do two things. One, where it allows us, we go in and do what we call the permanent reconstruction of the levees. In some cases, we are not going to have time to do that. All we are going to have time to do is go in and plug up the gap, if you will, or the hole. As soon as the construction season next year will allow us and it is dry enough, we will get back in and do the permanent reconstruction of those levees. So it is on a case-by-case basis and we are going to try to get everything done that we can get done during this construction season.

I am not aware of the issue you have identified.

Mr. COSTELLO. So to your knowledge, you do not have any contracts where the contractor is told that on a date certain he must cease repair of the levee and begin in the spring?

General WILLIAMS. I am not aware of it. That doesn't sound logical as I am sitting here.

Mr. COSTELLO. It didn't sound logical to me, either. That is why I asked the question.

General WILLIAMS. I will look at that, though.

Mr. COSTELLO. I would appreciate that. And if you would have someone get back to my office, I would appreciate it.

General WILLIAMS. Certainly.

Mr. COSTELLO. Will all the levees be repaired to the pre-flood levels, the levees that the Corps of Engineers has jurisdiction over, the Federal levees?

General WILLIAMS. All the Federal levees and the non-Federal levees that were in the program, eligible for Public Law 84–99, will be repaired to the state that they were in prior to the flood.

Mr. COSTELLO. Mr. Chairman, I have no further questions at this time.

Mr. BORSKI. There being no further questions, General Williams and General Genega, thank you very much for your cooperation and your testimony. We look forward to working with you again in the near term.

General WILLIAMS. Mr. Chairman, I didn't get back to respond to Ms. Danner's comments.

Mr. BORSKI. Certainly. Go ahead.

General WILLIAMS. The different types of levees that we have throughout the area is a subject that is not well understood by many. The comments that Ms. Danner made in regards to the importance of those levees I would echo. So all of us, I think, do have

an educational process to go through to make sure that people understand the different types of levees and the importance of the levees.

The second comment I was going to make to Ms. Danner is that we will continue to work with you and try to sort out the problems and the issues that you have brought to our attention prior to this committee hearing and we will do everything we have the authority to do to help you in the situation that you and your constituents find yourselves in.

Ms. DANNER. General, I very much appreciate that because you and I can see that it is very illogical that levees that should be put back in place so that we have an overall pattern be left out of the mix because of a lack of paperwork, because of any other number of reasons that it might not have been completed. The question is, Do we need the levees or not? The answer is obviously yes. We don't want the failure to return a postcard to cause us to have a piecemeal approach to repairing those levees.

Most particularly, I would think we would run into some very real problems where one levee abuts another and one is in compliance and one is not in compliance. So we would have a very real problem there, too. I would hope that we could continue to work with you both here and in the regions. Certainly, we in the Congress have a responsibility to try to make the wherewithal available to the Corps so that funds are available in order to repair these.

I just cannot stress enough how devastated my district is. And there is a misconception in this community about the fact that they perceive people living on the edge of this riverbank. They don't understand that this flood in some instances was 20 miles wide. As I flew over my district both in plane and helicopter, it was like flying over the ocean with treetops and rooftops protruding.

This is not a question of just bringing back some acres of green land along the rivers. This is a far greater impact than that.

I appreciate that you understand it. I wish that more people in Washington, D.C. did.

General WILLIAMS. We will do everything we can within our authority to assist.

Ms. DANNER. Thank you.

Mr. BORSKI. Once again, thank you very much, General.

Mr. COSTELLO. Mr. Chairman, I wonder if I might ask—I have to leave to go to another meeting.

I would like to have unanimous consent to enter the statements of the Mayor of Valmeyer, Illinois, and the chairman of the County Board in Randolph County, Illinois in the record.

Mr. BORSKI. Without objection, those prepared statements will appear in the record at this point.

[Mr. Costello's submission for the record follows:]

Village of Valmeyer

Valmeyer, Illinois 62295
(618) 935-2131

Good Morning, Mr. Chairman and Members of the Committee. I am honored to be allowed to present to you the views of a small Midwestern town that nas been drastically affected by this summer's record flooding.

Valmeyer is located in southwestern Illinois, about 3 miles east of the Mississippi River. It is nestled close to the bluffs and is surrounded by 55,000 acres of rich river bottom farm ground. Principal flooding problems occurred in our area in 1943, 1944 and 1947. Damages in 1947 were extensive due to severe winds during the highest river stages. Levees were constructed by the Army Corps of Engineers between that time and 1950 and have successfully protected our area until August of this year.

The local citizens fought valiantly with the assistance of countless volunteers. Monitoring of sand boils and 24-hour levee patrols began in early July and efforts were stepped up as the river level steadily increased. On August 1, we watched in shock and disbelief as many of you did as the levee gave way near Columbia and swept away complete farmsteads in its path. Within 18 hours the water overtopped a flank levee protecting our town and by 4:00 A.M. on Monday, August 2nd water made its way through Valmeyer. The water rapidly inundated our town's 350 structures, eventually to leave only 8 dry. Water levels reached 16 feet, which when combined with current and mud, reduced 80% of our

Village of Valmeyer

Valmeyer, Illinois 62295
(618) 935-2131

town's structures to worthless shells.

The Army Corps of Engineers was on hand throughout our floodfight. Due to the scale of this event, they weren't always able to supply the manpower necessary to fully assess our immediate needs. Efforts which could possibly have saved Valmeyer were not pursued and those same techniques were later used to save the town of Prairie du Rocher. We are appreciative of the efforts of the Army Corps in erecting a temporary dike around our levee breech. For more than two months, water flowed freely through our town until this work was completed the second week in October. This temporary repair and the anticipated permanent repairs are essential to restore our county's deflated agricultural economy.

The Federal Emergency Management Agency has been extremely helpful during this crisis. 900 Valmeyer residents were forced from their homes in early August, and it is due to the efforts of FEMA, through rental subsidies and mobile homes, that most of these people now have a temporary roof over their heads. Not helpful, however, was the fact that local officials as well as residents found it difficult to get consistent answers.

As the water slowly started to recede, it was evident that a major

Village of Valmeyer

Valmeyer, Illinois 62295
(618) 935-2131

portion of our town had sustained substantial damage. The only option for most people would be relocation, either at the individual's option or as an organized, united effort. Discussions with FEMA yielded unsatisfactory responses. A project this size had never been attempted before. According to historical data, a relocation effort such as this was predicted to take 5-10 years. By that time our residents would be dispersed like dandelion seeds in the wind. This was not acceptable to us, so we took matters into our own hands. We could not accept the **death of our community!** With little or no technical assistance from the Federal Agencies, we began our own relocation efforts. Committees comprised of town residents were formed and with our Regional Planning Commission serving in an Advisory and Resource capacity, weekly meetings began in early October. A preliminary, but highly detailed town plan and accompanying course of action will be presented to our entire community on November 10th. We have been able to secure an option on a 500 acre tract of land one mile east of our current town and 350 feet higher in elevation atop a bluff. Our plan calls for the sale of residential lots by December 15th, with construction starts as early as next summer. The community will include our K-12 school district, churches, businesses and industries, park and residential areas. As I speak, construction has begun for one of our industries, a printing company from our town that employs 90 people.

The planning efforts for the relocation of our town to a non-flood

Village of Valmeyer

Valmeyer, Illinois 62295
(618) 935-2131

zone have been therapeutic for Valmeyer residents. Their focus has changed from the summer's devastation to working to help shape their futures. We are sympathetic to the hundreds of smaller communities who are waiting for guidance from the government to begin such efforts, because until they do, they will continue to flounder in their misfortune.

We are by no means looking to take a "free ride" at the government's expense. Governor Edgar's office and the affiliated State agencies have been particularly helpful to us in our efforts. If Valmeyer, however, is to begin its "new life" as an economically sound, environmentally clean and enterprise healthy community, we will need some assistance from the Federal government. Particularly important is a timely response to the financial requirements of the FEMA buyout program.

PLEASE HELP US HELP OURSELVES!

On behalf of the Valmeyer area, thank you for giving me the opportunity to tell our story.

Dennis M. Knobloch
Mayor

Randolph County Board
Of Commissioners

#1 Taylor Street Chester, IL 62233 (618) 826-5000 Ext. 226
FAX (618) 826-3750

October 28, 1993

Honorable Jerry F. Costello
U.S. Congressman
119 Cannon Building
Washington, D.C. 20515

Dear Jerry,

The response of federal agencies during the flood was remarkable considering the length of time, severity of the damage and the large area of the country that was affected. The two agencies that we were most directly involved with during the emergency situation were FEMA and the Corps of Engineers.

The Federal Emergency Management Agency was responsive to our needs. The gentlemen assigned for preliminary review were available to answer our questions. Illinois Emergency Management was coordinating our requests. State Director John Plunk and Regional Director Bob Pippens were available to assist us around the clock. Their coordination with the National Guard and other agencies were instrumental in cutting through the red tape. I was impressed by the way FEMA personnel answered questions at public meetings that at times were volatile.

The Corps of Engineers handled their job admirable. I am positive that they have never encountered a flood of this magnitude. Their commitment was evident by the willingness to work with local officials around the clock.

Unfortunately, I believe that the flood may well have been the easy part of this disaster. Efforts must be made to rebuild the levees and return the people affected to a normal way of life as expediently as possible.

I would hope that every agency would assess their response during the flood and formulate a coordinated plan for future use to alleviate problems or delays that may have occurred during this catastrophe.

Sincerely,

Dan Reitz

Dan Reitz

DR/vsh

MR. BORSKI. I welcome our fourth witness, Mr. James L. Makris, Director, Chemical Emergency Preparedness and Prevention, Office of Solid Waste and Emergency Response, United States Environmental Protection Agency; accompanied by Carol Kather, Flood Coordinator, Region VII, United States Environmental Protection Agency.

[Witness sworn.]

Mr. BORSKI. Mr. Makris, I would remind you that your prepared statement will be made a part of the record and you may proceed in any fashion with which you feel comfortable.

TESTIMONY OF JAMES L. MAKRIS, DIRECTOR, CHEMICAL EMERGENCY PREPAREDNESS AND PREVENTION, OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, U.S. ENVIRONMENTAL PROTECTION AGENCY, ACCOMPANIED BY CAROL KATHER, FLOOD COORDINATOR, REGION VII, U.S. ENVIRONMENTAL PROTECTION AGENCY

Mr. MAKRIS. Thank you, Mr. Chairman.

With that understanding, I think we can probably summarize this fairly briefly.

Good morning. We are pleased to be with you. My name is Jim Makris and I direct EPA's chemical emergency preparedness and prevention efforts. I am also the overall emergency manager for the Environmental Protection Agency in crises such as natural disasters. Just for your information, I am a former employee of the Federal Emergency Management Administration and before that with the Federal Disaster Assistance Administration.

With me is Carol Kather from EPA's Region VII in Kansas City. Carol and I were privileged to be with the President in the summit meeting in St. Louis and to see first-hand the incredible interest the President has conveyed regarding this initiative of putting people first in emergencies.

I was also part of the effort that was led by Leon Panetta when he was trying to decide that every agency needed to have a specific place and focal point for dealing with crises of all kinds.

I think a combination of that interest together with the experience of our Administrator, Carol Browner, who had a great responsibility in the Hurricane Andrew situation in Florida, caused Mrs. Browner to have a very early briefing of emergency operations in the agency. Indeed, she made it very clear to all of us that she expected us to not only put people first but to make sure that we involved, to the greatest extent possible, States.

Part of what we did at the very beginning of this disaster was to contact most Members of the Congress to say, "Please make sure that you let us know what it is that you need from the EPA." We also contacted the governors directly and through the National Governors Association. So with that as a foundation, we were prepared to deal directly with the issues as they were presented to us by the States.

That facilitated our work in emergency management because we have a basic emergency responsibility under the CERCLA programs and the Clean Water programs. We deal with oil spills and we deal with releases from Superfund sites as a matter of our ordinary business. We have a national response mechanism. The Na-

tional Response Team is something that EPA chairs. The United States Coast Guard is the vice-chair and it has 15 Federal agencies, including FEMA and health agencies and worker protection agencies.

In addition, we have 161 OSCs throughout the country who are capable of quickly responding to a scene with a large contract capacity behind them to deal with things like spills and releases. We had a good many of those from all over the country working on this flood, I can assure you.

The National Response Team met three times during this event, and the regional response teams, which reflect the Federal program but include State representatives, also met together.

To carry out our responsibilities in natural disasters, particularly of a catastrophic nature such as this, we basically operate under the Federal Response Plan, and EPA is the Chair of the ESF–10, which pertains to hazardous materials. We largely satisfy our ESF–10 responsibilities for preparedness and response through the existing programs the agency has for dealing with hazardous materials incidents. In other words, using the parallel mechanism that we have under the Clean Water Act and Superfund to deal with our responsibilities under the Federal Response Plan.

Particularly in the flood area, we assisted in characterizing spills and releases. We provided staff and contractor support to pick up drums. We assisted in dealing with water systems that were damaged. We provided technical assistance to various sewer systems and waste treatment plants that were harmed.

We had an aggressive household hazardous waste program where we picked up household hazardous waste and kept it separated so as to not contaminate non-hazardous waste with hazardous waste, therefore making it all hazardous. As you know, it then becomes much more costly to deal with.

We provided support to the Corps of Engineers under their ESF and provided assistance to HHS in fulfillment of their health responsibilities as well.

In our role, we found the total number of drinking water and waste water facilities impacted were 309 and 410 respectively. I can assure you that all the waste water plants today are either partially or fully functional. All but two have full secondary treatment and all of them have chemical protection so there is no effluent going into the rivers—and all the water systems are on line. That is not to say that they are all in great shape, but they are all on line, the drinking water systems are providing acceptable water, and the sewage treatment plants are not discharging contaminated effluent. There is still a good deal of work to do.

From an overall perspective, I think EPA probably had its greatest response ever in a natural disaster partly because of the incredible leadership of FEMA in this event and as I said earlier, because of Mrs. Browner's personal interest in making sure that we were responsive, having been on the receiving end of some less successful disasters like Andrew.

We were able to monitor the many Superfund sites. We were unable to do it as fast as people wanted to because the waters did not facilitate our efforts by receding quickly. But we were able to characterize the kind of wastes that were there and try to get a grip

on some monitoring as the water was flowing from there. We picked up more than 15,000 drums from the river, some of them coming from the north from States like Illinois and further up the river. We stored 52,000 pounds of hazardous waste.

We participated in each of the disaster field offices as FEMA created them and were an active part in their CDBG programs and in their daily television shows that they put out over the media on the flood response.

I think I would like to say that from my perspective we have learned a lot. We look forward—as many of the other panelists have said today—to working with FEMA as we review the lessons learned in this event. We think that because of the experience of our on-scene coordinators, because of the existing mechanisms of national response teams and regional response teams, because of the partnership we share on a regular basis with the Coast Guard and with FEMA, who are members of the NRT, we were able to pretty quickly effect fairly decent Federal coordination.

We look forward to participating with FEMA and the agencies of the CDBG in the national response system in improving our abilities to both respond and prepare as well as to prevent and mitigate these kinds of events in the future.

Thank you.

Mr. BORSKI. Mr. Makris, how would you rate the level of State preparedness to deal with the environmental consequences of the flooding?

Mr. MAKRIS. I think it was very good. Carol Browner and I and Carol Kather and the regional administrator from Region VII spent quite a long time with the environmental directors or administrators of the agencies and States. I think they were pretty well prepared to deal with the issues.

An example is that in the State of Illinois, for example, there were virtually no mission assignments issued to EPA at all because of the capacity of the State to deal with the environmental issues. We did a little bit of work on assessment, but largely the State carried the ball with their own skills and their own abilities.

Mr. BORSKI. What posed the greatest environmental risk? Was it the flooding of hazardous waste sites, waste water treatment facilities, drinking water facilities and wells, or leaking oil and chemical tanks?

Mr. MAKRIS. My personal view is that it was the fear of the unknown. People just didn't know what was going into the river. They couldn't know that allegations of high levels of atrazine were or weren't true. They couldn't be comfortable that there weren't major sewage contaminations going into the river. They didn't know what was going to happen when the waters receded. They couldn't tell whether or not there was going to be particulate matter from chemicals that was going to be residual in the ground. They couldn't know whether or not fish were going to be harmed.

It was the great inability to really know things. And because most of the Superfund sites or RCRA facilities or landfills—for which the Federal Government has no direct responsibility for financing or managing because they are largely permitted at the State level—because we had no real information on some of these

things and because they were all under water, there was this great fear and mystery.

So I thought that was the greatest challenge for a persistent flood. If it happened quickly and receded like in Andrew, you could quickly look and see what had gone on. In the case of this flood, because the waters were there for so very long, and because it was so hard to understand how an RCRA site might have been impacted—or frankly how a chemical facility might have released chemicals—that the unknown was a fearsome thing.

Mr. BORSKI. I understand that the EPA has been lenient in permitting communities to exceed discharge limits under the Clean Water Act. How long do you anticipate this to continue?

Mr. MAKRIS. Mrs. Browner took a step to make sure that we could extend that—I think she said 6 months. But we are not lenient. We are simply saying that if these facilities are moving very quickly toward trying to restore themselves to the proper operation, we will turn our back. I think if a facility was ignoring these requirements, we would have quite a different view.

Mr. BORSKI. Mr. Makris, one final question, if I may.

According to your testimony, "no significant releases of hazardous materials attributable to the flood have been reported." However, your staff advised the subcommittee staff last week that there had been a confirmed release of oil from the national marine site located in Hartford, Illinois.

Can you tell us about the severity of that incident and how EPA responded?

Mr. MAKRIS. There was some material released from the Nicor site. It was largely light petroleum products—benzene, toluene—which largely floated on top of the surface. Booms were put in, the material was collected by the State—going back to Illinois doing a lot on their own. Illinois collected the material and EPA monitored outside the boom and found relatively insignificant kinds of contamination. It could have been a problem. It could have persisted.

We were also worried, for example, about the dioxin sites that exist in the State of Missouri. But we immediately monitored those dioxin sites because we had great fear that dioxin might start also getting released. But with very careful and persistent monitoring, we found that that was not the case.

Mr. BORSKI. There being no further questions, Mr. Makris, let me thank you very much for your testimony.

Let me advise the next panel that there will be a brief recess so that members may respond to a call to the Floor of the House.

The subcommittee will stand in recess.

[Recess.]

Mr. BORSKI. The subcommittee will reconvene.

We would like to welcome our fifth panel, Mr. Jerry B. Uhlmann, Director, Missouri State Emergency Management Agency; Ms. Ellen Gordon, Administrator, Emergency Management Division, Iowa Department of Public Defense; and Mr. John Plunk, acting director, Illinois State Emergency Management Agency.

[Witnesses sworn.]

Mr. BORSKI. Let me once again remind our panelists that your full testimony will be made a part of the record and you may proceed in any fashion in which you feel comfortable.

Mr. Uhlmann.

TESTIMONY OF JERRY B. UHLMANN, DIRECTOR, MISSOURI STATE EMERGENCY MANAGEMENT AGENCY; MS. ELLEN GORDON, ADMINISTRATOR, EMERGENCY MANAGEMENT DIVISION, REPRESENTING THE STATE OF IOWA; AND MR. JOHN PLUNK, ACTING DIRECTOR, ILLINOIS STATE EMERGENCY MANAGEMENT AGENCY

Mr. UHLMANN. Mr. Chairman and members of the committee, on behalf of Governor Mel Carnahan, I appreciate the opportunity to testify at this hearing today on the Federal response to the great flood of 1993 in Missouri.

The flood of 1993 in Missouri was the worst natural disaster on record. It has set record in virtually every measure in terms of overall damage, duration, lives lost, and total victims affected. This disaster started back in April and the presidential declaration was approved for eight counties along the Mississippi River in April and May. That declaration was closed out on the 24th of May. The flood had subsided by that time.

Then on June 10th rains returned causing flash flooding in northwest and southwest Missouri in addition to the flooding along the Missouri and Mississippi rivers. This flood was expanded by three separate crests, each one establishing a new record. The most severe results were loss of water in St. Joseph, over 300 roads closed, a flooded cemetery lost 750 caskets, and a levee break near St. Louis which flooded an airport and over 350 businesses.

After combatting flooding for nearly 5 months, on the 14th of September, heavy rains in previously unaffected south central and southwest Missouri caused flooding that prompted adding on an additional 15 counties, and we are still adding on counties this week. At this point, there are 101 counties and the city of St. Louis declared for individual assistance and 79 counties and 3 cities for public assistance.

Many lives in Missouri were interrupted. More than 33,000 Missourians have applied for assistance. There were over 30,000 citizens who had to evacuate their homes and currently there are 1,600 homes still inaccessible. In Missouri alone, the flood has claimed 31 lives and has caused over $3 billion in damage. It is estimated that the Federal share of the Stafford Act assistance will exceed $250 million, $143 million of which has been approved to date. Recovery operations are expected to last 3 to 5 years.

The Missouri State Emergency Management Agency, SEMA, is responsible for developing the State disaster preparedness program under the all-hazard concept. SEMA coordinates closely with local authorities. If the magnitude of the disaster increases beyond their capability and a state of emergency is declared by the Governor, SEMA then coordinates the State agency response.

Missouri is accustomed to flooding with Federal declarations being received for localized floods in 1986 and 1990. Missouri officials have at both local and State levels taken vantage of the FEMA training courses and have conducted numerous State and local exercises. The threat of an earthquake along the New Madrid fault has provided added incentive for our emergency management program.

There is a good interface between the State and FEMA. This paid major dividends when FEMA promptly activated the Federal Response Plan and established a disaster field office near St. Louis. The disaster field office activated nine Federal agencies and when possible were joined with the State counterparts for a cohesive operation. The State operated the State emergency operation center on a 24-hour basis from July 2nd to September 7th, activated again on September 24th, and still remains on extended operating hours.

While the flood of 1993 stretched SEMA and other State staffing to the limit, the disaster relief programs nevertheless were well coordinated with FEMA and other Federal personnel. As a result, a wide range of disaster services were delivered effectively to benefit thousands of flood victims. Throughout this period, FEMA assistance to the State has been the vital force in effective response and recovery operations that were timely and beyond the State and local capabilities.

Missouri's experience with FEMA in previous disasters, while positive, was generally limited to delivery of recovery programs. This flood showcased FEMA's new commitment and successful efforts in disaster response to catastrophic events. The flood of 1993 will provide a lot of information that will be valuable in for preparing for future disasters.

Some initial recommendations and suggestions that I can offer at this time are:

First, recognizing the importance of local governments appointing full-time emergency Management directors on a paid basis whenever possible. Missouri has some fine local emergency directors. However, due to funding restrictions, there are some local jurisdictions that have no or only part-time programs.

Second, allowing State and local officials access to Federal applicant records. Because the Federal Privacy Act prohibits sharing disaster applicant records, this hinders such things as checking for duplication of benefits. In another case, county officials wanted to lower the property tax assessments to the flood victims but could not get the applicant information.

Third, improving the system for use of mobile homes as temporary housing. Even though mobile homes would be a last resort for housing, the procedures do not allow for a quick identification of potential applicants and the delivery means should be more expedient.

Fourth, centralizing as much as possible the location of FEMA field operations. FEMA established a disaster field office near St. Louis and their central processing office in Kansas City. This created a staffing and management challenge for the State since these requirements were in addition to operating a 24-hour a day emergency operation center in Jefferson City.

Fifth, improving and expanding the hazardous mitigation grant program. Missouri participated in this program in conjunction with the 1990 flood. To this date, no projects have been funded but several are pending. The present program is difficult to implement, procedures are time-consuming, definitive guidance is lacking, and the State and local communities have trouble meeting the 50 percent match. Under FEMA reorganization plans, mitigation will be

a separate division. I feel this added emphasis will alleviate some of our concerns.

I also understand that the committee is considering legislation authored by Congressman Volkmer of Missouri which includes additional funding for the hazard mitigation projects. We applaud these efforts. Missouri is dedicated in personnel and adding emphasis in hopes that the hazard mitigation grant program will become a more viable program.

In conclusion, I feel that the response and recovery activities within the local, State, and Federal emergency management arena was a definite success and with the knowledge gained from this disaster, should greatly enhance future planning.

That completes my testimony.

Mr. BORSKI. Thank you, sir.

Ms. Gordon.

Ms. GORDON. Thank you.

On behalf of Governor Branstad and the State of Iowa, I would like to thank you for the opportunity also to testify today on the Federal response to the flooding that hit the midwest.

As Administrator of the Emergency Management Division in Iowa, I will just share with you briefly some of the things that we experienced during the preparedness, getting ready for the flood that occurred and the response and recovery phases of that flood.

I would begin by saying that overall, the Federal agency involvement—specifically, FEMA's involvement and Public Health Service's involvement—we were very happy with that. We continue to work very closely with those Federal agencies that were there during the response. As far as I am concerned, it is not over. We are still working very diligently toward the recovery.

As in Missouri, this was the worst disaster that ever hit the State of Iowa. All 99 counties were affected by this flooding event. It was more than just the Mississippi River for Iowa. Iowa is bordered by the Mississippi and Missouri rivers with several major tributaries between the two borders. All the major tributaries were above flood stage at one time and at the same time. So those were the conditions with which we were faced.

In April, President Clinton did declare 15 counties as major disaster areas as a result of early spring flooding. Unfortunately, the weather conditions did not cease. They continued to worsen with heavy rains in Iowa and in Minnesota, which caused us problems and continued to cause the rivers to rise. As a result of that, we had at one time over 15,000 people evacuated from their homes over a 2-month period.

The floods in Iowa—the losses are estimated to be at approximately $3.5 billion. Infrastructure losses are about $500 million. Those figures are still estimates given that a we are not sure if all the damages have been found and may not be until later into the fall and winter and seeing what the freeze does to a lot of the sewer systems and so forth.

We have to date a little less than 30,000 people who have applied for disaster assistance. We have a little over 1,000 entities that have applied for public assistance under the FEMA public assistance program. We are working very closely with them on those recovery programs.

Flooding was not a new experience to most of the communities in Iowa. Flooding is probably our number one hazard. We have experienced six—this is the seventh presidential disaster declaration since May of 1990. All were flooding with the exception of one, which was a severe ice storm. So with that, a lot of the communities and the State included have been working very hard to ensure that their emergency operations plans are what they should be and continue to revise and refine those plans and exercise those plans so that when the next event comes along we are able to respond effectively.

We think the emphasis on the training and planning that we have placed in the State over the last 3 years helped us to be able to do that this last summer.

Like Missouri, this was our first opportunity to work in FEMA in any other situation other than just the basic recovery programs. The Federal Response Plan had never been implemented in Iowa before, so that was a new experience for us. The response plan was implemented on July 11th at the request of the State as things worsened as a result of losing the water system in the four-county area in central Iowa, specifically the city of Des Moines and the surrounding counties. It affected approximately 250,000 people.

There was no water to drink, no water for sanitation purposes, and no water for fire-fighting purposes. This posed a very large operational problem and concern for public health and safety within the middle of the State.

Through the efforts of coordinating that with FEMA helping and bringing in the Federal agencies and coordinating those efforts, we were able to survive that and move forward and learn a lot of lessons from that event that we hope in time—as that information is collected, we can share that with our counterparts across the Nation.

We not only benefitted from the Federal agency assistance, but also from other States. Other States provided assistance through some pre-planning of knowing what other States had for resources. They also provided very valuable assistance to the State of Iowa.

The Federal agencies that were involved as a result of the Federal Response Plan being implemented in Iowa were the Department of Transportation, Corps of Engineers, Environmental Protection Agency, Public Health Service, Department of Defense with the defense coordinating officer, and the United States Forest Service. FEMA's current estimate on that is $20 million for the Federal response cost to the State of Iowa. That typically is a 75/25 cost share when the Federal Response Plan is implemented. For this particular disaster, that was waived and the Federal Government absorbed 100 percent of that cost. We thank the Federal Government for that.

Iowa feels that anytime the Federal Response Plan is implemented that it should be 100 percent on the response activity. When that happens, it is our philosophy that our State resources have been expended to the point that we do need outside assistance and that we should not be in a place to have to worry about how we are going to pay for that outside assistance. So that is something that we would ask to be reviewed.

We strongly feel that within the scope of their mission FEMA did very well. They sent personnel to the State emergency operations center as soon as we asked for it. The Corps of Engineers and the National Weather Service at times, along with FEMA, were in our State emergency operations center. We were operational for 24 hours a day from June 27th until August 5th. So it was a long drawn-out operation for us as well as for Missouri.

The disaster field office location—when the disaster first was declared, we thought it was a smaller disaster. The disaster field office was established in Davenport, which is on the eastern edge of the State on the Mississippi River. As the disaster grew and the magnitude became beyond the initial disaster, it was a logistical problem for us of having the disaster field office 2.5 to 3 hours away from the State emergency operations center.

We would ask that an area that perhaps needs to be looked at is that the disaster field office be collocated in the same city as the State government is operating from.

To help in the recovery process, the governor established a State flood recovery coordination team made up of State agencies, volunteer agencies, local government representatives, and trade association representatives. That team has been tasked to ensure that the recovery process is coordinated and expedited in every way possible. We are also working very closely with the Federal coordination recovery team, Chaired by FEMA, who has a team right there in Iowa, and they also meet on a weekly basis. We are coordinating very closely with them and feel that that process is going very well and would encourage that to occur in future disasters.

Mitigation—I can't quit talking without talking about mitigation, like everyone else. It has been a challenge for us to try to get a handle on it. We feel that there is some room for improvement. I am hopeful that this will occur since there is now a mitigation branch within FEMA as a result of the reorganization, and perhaps some technical assistance and strong guidance can come from FEMA now as a result of that.

We, too, would like to see the cost share provisions changed on the hazard mitigation program. Rather than 50/50, perhaps 75/25 or something to that effect. I think it would go a lot further as far as getting more mitigation projects underway and the local and State governments could become more active.

The levees are an issue in Iowa. I just lay it on the table that we would like this issue to be looked at and expedited for this current fall and winter to ensure that the money is allocated back out to the States to the appropriate Federal agencies to ensure that the repairs continue with the Soil Conservation Service and the Corps of Engineers.

For this disaster, the President adjusted the cost share for the public assistance program, and we thank him for that. That was very helpful to the State of Iowa—and local governments, for that matter—in being able to determine how much liability we would potentially have on the public assistance program.

One last thing is that I would ask that this committee understand that the emergency management programs across this Nation are under-funded and we need to keep that in mind. Many of them operate on a shoe string and try to do something that is very

important with very limited resources. We would ask that you ensure that FEMA and its routine day-to-day programs, including those that flow through the States, are adequately funded. For example, the emergency management assistance program, which is one of the foundation funding programs for the local and State governments, are funded adequately.

In Iowa, we receive only approximately 30 cents per capita for this particular program. That is not nearly enough, unfortunately.

Last but not least, I think the overall response and recovery efforts in Iowa went very well, as I said earlier. The reaction of public officials at both State and local levels was based on their willingness to make themselves familiar with the emergency response considerations prior to the disaster. That is due to a lot of the training and planning that FEMA has told us we should do and that the State has tried to encourage the counties to do also.

The initiative of the State led by Governor Branstad and the entire emergency Management community—local, State, and Federal—for recovery efforts is probably one of the most effective I have witnessed in the 17 years in the emergency management field.

I think with that I will yield back to you, Mr. Chairman.

Mr. BORSKI. Thank you very much, Ms. Gordon.

Mr. Plunk, unfortunately, we are interrupted again by a call to the House Floor, so we will have to stand in a brief recess. When we come back we will start right with you.

The subcommittee will be in a brief recess.

[Recess.]

Mr. BORSKI. The subcommittee will reconvene.

Mr. Plunk.

Mr. PLUNK. Thank you.

Mr. Chairman, on behalf of Governor Edgar I would like to thank the committee for allowing us the opportunity to testify.

Flooding in Illinois actually began in mid-March on the Illinois and Mississippi rivers. Seven counties were given State disaster area declarations by Governor Edgar and we coordinated flood-fighting efforts with the Illinois Department of Transportation and Conservation. Costs to the State were considerable and the drainage and levee districts along the affected areas quickly exhausted their resources. The problems began to show signs of improvement in late April and in early May it was believed that the worst was behind us.

In early June, a series of storms dumped torrential rain across northern Illinois and Cook County causing localized flash flooding in many cities including Chicago. From that point on, the storms were relentless, rolling across the midwest in waves.

On July 4th, I was in the Jersey County town of Grafton, a small community of 1,400 people which lies at the point where the Illinois River joins the Mississippi. The river was projected to crest at 31 feet on July 6th. I assured Mayor Narin that I would return to Grafton to be with him on the 6th when the crest passed. I then departed for Quincy, Illinois 108 miles away. I didn't get back to Grafton until late July, but I was there on August 6th when the river finally crested at a record 39 feet, 6 feet above the previous high water mark and one month later than the predicted crest.

That typifies the problems we had during the months of July and August. The disaster had no foreseeable end. Every day brought more rain, higher crests, and higher costs. In Illinois alone, 884,000 acres of farmland were flooded, destroying some $425 million worth of corn and soybeans.

The flood impacted 82 communities. Of these, 59 were actually flooded or sustained serious damage. A number of Illinois residents have lost their homes and many more have lost the use of their homes. Over 15,000 applications have been made to FEMA for housing assistance, and still others have been forced to accept unemployment when their employer suspended work due to the flood or the commute over lengthy detours became too cumbersome.

Over 22,000 households have applied for disaster assistance through October 21st. Nearly 10,000 have sought assistance from the crisis counselling program. And 9,200 applications have been made for the individual and family grant programs.

The flood closed nearly 300 miles of roads, 12 bridges, and all four ferries crossing the Illinois and Mississippi rivers. Approximately 64 miles of State highway are still closed and another 900 miles of local roads and streets were inundated with flood waters. Many of them are still not passable.

Responding to the record-breaking flood has placed extraordinary demands on government agencies at all levels, including the Illinois Emergency Management Agency. The emergency operations center was open for 45 consecutive days with three forward command posts along the swollen river serving to provide coordination of State and Federal assets.

The National Guard spent over 1.5 million man-hours on State active duty sandbagging, assisting with evacuation, security, and aeromedical evacuation missions. Guardsmen remain on duty today in several areas of the State.

The Illinois Department of Public Health and the Illinois Environmental Protection Agency distributed approximately 4.2 million gallons of potable drinking water in a 4-week period to persons in facilities in the Altman-Madison County area. The Illinois Department of Correction supplied nearly 13,000 inmate days for sandbagging and another 4,000 for cleanup operations. In all, over 1,400 boot camp inmates were used in flood-fighting operations.

The Illinois Department of Transportation put an army of trucks and earth-moving equipment along the entire western length of the State building roads out of deer paths, building levees where none had existed, and raising roadway levels in a race with the rising water.

The Federal Emergency Management Agency responded quickly and effectively to Illinois' immediate response needs. Their implementation of the Federal Response Plan worked well. And I might add, better than we had expected. They coordinated the multitude of Federal agencies to get Illinois what it needed and when it needed it.

Unfortunately, there is no similar effort for long-term recovery. The Stafford Act does not address the concerns we in Illinois have for rebuilding communities and reestablishing normalcy for the thousands of persons displaced and otherwise impacted. In that sense, Illinois and other States have shown leadership by their co-

ordination of State and Federal programs for recovery. Governor Edgar established a recovery task force in August.

This task force continues to meet on a weekly basis ensuring that no resource or problem is overlooked and that services can be provided to the people and communities affected by this disaster. The FEMA hazard mitigation program is being utilized at this time by the State of Illinois and other State agencies along with FEMA and their respective counterparts to implement the long-range recovery following the flood.

Because of the magnitude of the 1993 flood and the number of individuals and communities heavily impacted in the 39 counties in Illinois declared major disaster areas by the President, it has become apparent that the overall desire of both individuals and entire communities is to relocate off the flood plain. The State of Illinois has always supported this desire and has taken advantage of the mitigation measures provided by the national flood insurance program relocation that has provided for the removal of 116 structures in 17 jurisdictions since 1981.

In addition, the State has its own acquisition program administered under the Department of Transportation, Water Resources Division, which has successfully removed 99 structures from the flood plain in just six jurisdictions with another 50 to 80 structures pending buy-out at this time. In more than a decade, we have only been able to reduce the number of structures in the flood plain by 215. Now we are faced with more than 60 communities in flood ravaged areas who have residents who are willing to move, and potential for 20 times the number of acquisitions and relocations we have provided thus far.

In the past, convincing individuals to relocate from the flood plain has been an arduous hard-sell proposition. However, I believe it is the most cost-effective means that we have to prevent the reoccurrence of future damages and the continuing outlay of Federal, State, and local dollars in areas that will assuredly be flooded again and again.

At the present time, the recovery mitigation advisory group, made up of Federal and State agency representatives, are meeting in Springfield to provide a clearinghouse for mitigation applications so that the various funding sources can be packaged in such a way that a community's application will use the appropriate funds for assisting families in buy-outs and relocations as well as for various aspects of other type mitigation, such as structural hazard control, retrofitting, warning systems, et cetera.

This is a very complex endeavor that the State of Illinois and the Federal Government are taking, but it is in the interest of mitigation that we have put together a mitigation team in order to go forward in a financially efficient manner. While I realize that many individuals are asking, "Where is the money?" I believe that a more deliberate, methodical approach is far better than getting money out quickly but without direction as to whether the correct funding source was used. The need for coordination between project applicants and State and Federal agencies that are sources of funding has never been more evident.

In conclusion, I would like to acknowledge the leadership and assistance given to the State of Illinois and to me personally by

FEMA director James Witt. Although for the most part we have always enjoyed a good relationship with FEMA, cooperation during this disaster was extraordinary. Director Witt's personal involvement on several issues was very helpful to me and I would like to commend him on a job well done.

Much criticism has been leveled at FEMA in recent years. In my opinion, much of that criticism was undeserved. I would urge Congress to allow Director Witt wide latitude to correct the problems which do exist. Director Witt is the first FEMA director with emergency management experience and we believe he is on the right course.

I would like to thank the committee for allowing us the opportunity to speak here today.

Mr. BORSKI. Mr. Plunk, thank you very much.

Let me assure you that we hold Mr. Witt in equally high esteem and we look forward to working with him. He has done an excellent job not just in this particular disaster but in the changes that he has already brought about to FEMA.

Let me ask each of you how you would evaluate FEMA's efforts to coordinate the disaster response efforts with State emergency management agencies?

Mr. UHLMANN. I would say very good because they reacted quickly. As I said in my testimony, they came in during the response phase, they coordinated all the Federal agencies at the disaster field office, which allowed us to put our counterpart State agencies with them, and it streamlined the operation and operated very effectively.

Ms. GORDON. I would have to echo what Jerry said. I think it is the first time that we have had an experience with FEMA in the response phase, so I have nothing to compare it to. But I felt very good about it. We got the mission assignments established immediately, went right to work, and were able to cut through a lot of the bureaucratic paperwork that typically is required to get the job done and worried about that later. That is one of the things that I think made it operationally work very well. They didn't get bogged down in that type of thing.

I think the relationship is good and even today there is still a FEMA presence in Iowa and probably will continue to be for the next 3 or 4 years. I think that will continue.

Mr. PLUNK. I think they have a tough job. One of the first conversations I had with Director Witt in the early stages of the disaster, when the Federal Response Plan was to be implemented, was my concern about that plan and the way they envisioned it happening. I saw it, quite frankly, as going to be a hindrance and an interference. They made modifications in the way they set the plan up in Illinois and they allowed us a pretty wide latitude.

I think they need to be flexible. I think we all operate in different FEMA regions and with different agendas of our own and different resources and assets and capabilities of our own across the States. I think FEMA needs to be ready to adapt with each State's disaster to be flexible enough to provide the amount of assistance and coordination that we want and need without appearing to come in and take over or disrupt.

To that extent, I would give them an A on this flood. They were excellent to work with.

Mr. BORSKI. What specific efforts did you make to inform county and local officials of the resources available for disaster response?

Ms. GORDON. In Iowa, by State statute we are required to have an emergency management director in each county. We used that mechanism, the State-wide telecommunications network, the law enforcement network, of getting information out in a quick manner.

This was during the response phase. A lot of it was on demand. Because the disaster was so widespread, we did not really have the opportunity to say, "Well, this is what the Federal Government has to offer. What is it that you need?" Most everything was on demand by monitoring what was going on in the State and trying to then do some worst case, 72-hour, 90-hour game plans as to what we could expect to happen and estimate the resources that would be needed in each part of the State.

That is how we approached it, from that perspective. We tried to be very responsive so that when local government did have a need we were able to find it, look ahead, and told the Corps that we were going to need *x* number of pumps and ask them to find them for us. That is kind of how we operated.

Mr. PLUNK. We very firmly believe the local governments, the county governments, and the cities that are impacted by disaster are in charge. They are clearly the lead in any disaster, regardless of how high it may eventually get. The measure of the response and recovery can usually be judged by the quality of the program in that given county or city.

We had 630 miles of river and not many people from the State agency level to patrol it with. Where the response was the most effective was where the county or city had the best emergency management program. Where they through practice and experience and exercises had learned to communicate with us their needs, we were able to respond very quickly with the State resources they needed. Where they didn't know that or where no such emergency manager existed, we found that in some cases mayors left with no other choice—we are calling Congressmen and Senators who were calling James Lee Witt who was then in turn calling me for something that we could very easily have provided from the next county over. But they didn't know how to access the system.

Emergency management in Illinois—probably the same as in every other State—ranges from excellent to non-existent. We are doing everything we can, but to echo Director Gordon's comments earlier about the importance of the emergency management assistance funds, that is where it really pays off in implementing those programs.

Mr. UHLMANN. The success of any disaster is directly proportional to the amount of training and planning conducted prior to the disaster. We found the same way the States before me stated. The local jurisdictions that participated in the training and the exercises responded very well because they had to know, first of all, what resources they needed and where to get them. So once your team goes up and we coordinate with them, then it went very effectively. But we experienced the same thing from some areas where

they didn't really know what they needed. They had a problem but they didn't really know how to request assistance.

The problem we had at the State level was that the magnitude of the disaster was so widespread that we couldn't work real close with all the counties. We just didn't have the personnel or staffing to do that. So we operated pretty much on the demand system, too. As the counties requested assistance, then we responded the best we could.

Mr. BORSKI. Mr. Plunk, you said that the Stafford Act does not address the concerns you have in Illinois for rebuilding communities. Can you tell us what the concerns are and where the Stafford Act falls short?

Mr. PLUNK. Well, we are talking about this Federal Response Plan. I guess we have always regarded FEMA, to be honest actually all of the Federal Government, as that person or that entity that we turn to after a disaster to bring the pocketbook in to make us whole again. But up to that point, we always felt that we could handle from the response phase whatever was needed. With the exception of probably the Corps of Engineers that has a pretty direct response role and are involved in things like floods, we really recognized FEMA and the Federal Government as a recovery entity. Yet, they have been thrust into this response role. I believe under Director Witt, they are going to be effective at it.

Now we would like to see a Federal recovery plan, if you will, developed along with the response plan that would go in.

I think one of the biggest concerns is—we believe that we coordinate. Our agency, the Illinois Emergency Management Agency, coordinates all State assets and all State programs for response and recovery during a disaster. Frankly, I see a reluctance in the Federal family for allowing FEMA that same role.

We would like to see all the Federal programs—and it seems like they are lining up, frankly, to throw money at us, but we would rather have them all coordinate that with FEMA so that we could get a better handle on what was available fund-wise, and we could have more of a determination as to where the funds were going and for what purpose they were used.

Mr. BORSKI. Ms. Gordon, all 99 counties in Iowa were declared a disaster area?

Ms. GORDON. Yes.

Mr. BORSKI. In your testimony you state that only 56 out of the 99 counties participate in the Federal emergency management assistance program, which is the funding foundation for the State emergency management system.

How well prepared to respond to the flooding were the remaining 43 counties which do not participate in the emergency management program? And what effect did this have on the State of Iowa's ability to respond to the flooding?

Ms. GORDON. I think we find in the counties that do not participate in the emergency management assistance program for the most part are not nearly as well prepared. The reason I say that is because with the emergency management assistance program, EMA, there are strings attached. If you take this Federal money, then you have to conduct exercises and do planning and attend training and all the things that are required. So the counties that

do not participate may or may not do those things. They are obviously not required to, so if it falls within their agenda or their priorities, they may or may not do those things.

We do have emergency operations plans in all 99 counties because even though a county doesn't participate in the program, the State has been required by FEMA to still make sure that there is a plan in every county. So given that, that helps us. That earlier FEMA requirement did pay off in this disaster.

How it affected us in Iowa? I think echoing what Illinois and Missouri said, maybe they didn't know the system quite as well as far as who to call. That mayor out there that had a lot of problems wasn't real sure because the emergency management director may not be real strong or knowledgeable as to what the system is. I think that was probably the biggest problem, not understanding the system.

Mr. BORSKI. Mr. Uhlmann, do you have any indication when you will receive more definitive guidance from FEMA to enable your State to submit eligible projects under the hazard mitigation program?

Mr. UHLMANN. At this time, I do not. There has been a lot of guidance put out. There has been a certain amount of guidance that has changed. I think the program is going to have to be solidified in a manner so that everybody understands it. We know what the guidelines are and we can explain it to the local communities so that they understand it as well.

As far as when we receive that, I am not sure, but it is still a cumbersome operation. Also, there is not sufficient money there to support everything that should be supported under the mitigation program.

Mr. BORSKI. The subcommittee has no further questions. If you have nothing you would like to add or something you would like to add, let me thank you very much for coming to Washington, D.C. and helping us in our deliberations. We appreciate it.

Thank you very much.

We would like to welcome our sixth panel, Hon. Eugene C. Schwendemann, County Executive, St. Charles County, Missouri; accompanied by: Mr. Gary O. Schuchardt, Director, St. Charles County Emergency Management Agency; Hon. Fred Mathison, County Supervisor, Story County, Iowa; and Mr. H.L. (Bud) Whitfield, Director, Scott County Disaster Services, Davenport, Iowa.

[Witnesses sworn.]

Mr. BORSKI. Let me first recognize the distinguished member from Iowa, Mr. Lightfoot, a former member of the Public Works and Transportation Committee and now a very valuable member of the Appropriations Committee.

Mr. Lightfoot.

Mr. LIGHTFOOT. Thank you, Mr. Chairman.

I would like to thank the Public Works Committee for providing me with an opportunity today to introduce Fred Mathison from Iowa who is going to testify on the performance of the FEMA agency in the 1993 flood back in our State. It is good to be back in this room as a former member of Public Works. There are a lot of fond memories here of the good work this committee does.

Mr. Mathison was born and raised in Nevada, Iowa. He served honorably in the Armed Services, he successfully owned and operated a small business for 25 years in that same city. He was elected to the Board of Supervisors in Story County, Iowa in 1978 and currently is in his fourth term.

To say that Fred is active in community activities I think is an understatement because you will find he is on the Second Judicial Board of Corrections, the Juvenile Detention Center Board, the Iowa flood recovery coordinating team, the Chair of the Story County Resource Enhancement Committee, the Nevada 2002 Planning Committee, coordinator of the Story County waste tire management program, and he is first vice president of the Iowa State Association of Counties. In his spare time he eats and sleeps.

I have gotten to know Fred really well over the last 2 or 3 years, particularly as we went through the flood which was a test of his dedication and hard work in putting together and helping to coordinate the whole rescue—well I guess it was a rescue in a way—of the effort that took part in our State.

I would urge the committee to very thoughtfully consider the testimony of Fred and to carefully examine his insights and suggestions on how to make future disaster relief more efficient and effective because he has been on ground, been there with it, and lived with it. He knows how it works. It is a real pleasure to have him here in Washington, D.C.

Fred, it is good to see you.

Thank you, Mr. Chairman.

Mr. BORSKI. Thank you very much, Congressman Lightfoot.

Mr. Mathison, let's start with you.

TESTIMONY OF EUGENE C. SCHWENDEMANN, COUNTY EXECUTIVE, SAINT CHARLES COUNTY, MO, ACCOMPANIED BY GARY O. SCHUCHARDT, DIRECTOR, SAINT CHARLES COUNTY EMERGENCY MANAGEMENT AGENCY; FRED MATHISON, COUNTY SUPERVISOR, STORY COUNTY, IA; AND H.L. (BUD) WHITFIELD, DIRECTOR, SCOTT COUNTY DISASTER SERVICES, DAVENPORT, IA

Mr. MATHISON. I certainly want to thank the committee for this opportunity to be here today.

I also want to thank President Clinton for the efforts he took in waiving the match for the State. By waiving that match requirement, the State of Iowa was able to then pick up the local match for our counties and cities that were involved in public assistance. This certainly did make a dramatic effect on the counties and cities in our State.

I might bring that thank you from all 99 counties in the State as I am not only representing Story County but as the first vice president of the Iowa State Association of Counties I am also representing the other 98 counties.

I think you have my written testimony and I would like to make a few comments in addition to that, if I may.

I have now contacted all 99 counties in the State. The general feedback that I seem to receive is that FEMA in those counties has been very responsive, has reacted in a very efficient manner, and the inspectors that they have sent to the different communities

have been very easy to work with and understanding. That is the other 98 counties.

In Story County, as my testimony indicates, we have had a very difficult situation with FEMA and with the FEMA inspector due to his lack of knowledge in the field that he was working in. That has created a very frustrating situation for us in Story County.

We have been working with FEMA representatives and hopefully the situation we have in regards to a human services center building where we have six human services housed will be resolved. It appears that it is taking a long time to get any action. The information that we received seems to—we have to be the one that goes after that information. Hopefully—I had a meeting Wednesday morning prior to leaving for Washington, D.C. and at that meeting I met with two regional representatives from FEMA from Boston.

I will have to say that that is my first positive meeting with the FEMA representatives and if it hadn't been for the Iowa Emergency Management Division, I don't know that we would even be this far in regards to mitigation for our human services center that was caught in the flood, although the building itself was not in the flood plain.

I would like to talk now for just a few minutes about the future. Some of the things I have mentioned in my written statement, but there are some other items I think we need to really keep in mind. One of them is the trauma that the people have experienced. I have been in neighborhood meetings in Ames particularly where they talked about forming a human chain to save a neighbor and his wife whose vehicle was being washed down into the flood.

Their children wake up at night still bothered. They themselves can't sleep. Whenever it rains, it is difficult for their children if they are at school because this creates a very traumatic situation for them.

I know FEMA is providing a lot of money and they are doing it in Story County now. I would encourage that in the future and to look at this as a long-range situation because these children, in particular—that trauma isn't going to end this fall. It isn't going to end next fall, or the year after that. It is going to be an ongoing situation. That is why I strongly encourage outreach programs to go into neighborhoods.

There are a lot of people that due to pride or whatever reason will not seek assistance from our mental health center. But if the centers are encouraged to go into the neighborhoods and meet with neighborhood groups, then I think that stigma or difficulty will be eliminated and I think it will do a lot of benefit, particularly for the children.

I can't emphasize—and it wasn't such a big factor in our county, but in the State—the importance the National Guard played in the disaster. With their equipment and their sandbagging efforts and their helicopters they were a very important portion of the recovery and the defense from this flood.

The assistance grants—we have assistance grants for public assistance. We have them for private non-profits, for State. Soil Conservation Service is providing a lot of assistance to agriculture. But there is one area that I think should be considered in the future,

and that is business. Maybe I would even further qualify that by saying possibly small business.

Small businesses are only eligible for SBA loans. By the time they fill out the SBA loan information, it is so detailed that many of them are taking out the forms but not returning them. The interest rate is no great advantage at this time, so they are going to local lending institutions for that assistance.

It would appear that at least in Iowa, particularly in some of our smaller communities, that small businessperson is really the heartbeat of that community. We cannot afford to lose those small businesspeople in our communities. I would hope that there would be some method looked at to provide some kind of a grant, or even a no interest loan, for small businesses for their recovery efforts.

The mitigation—as I mentioned, in our situation appears that we had some advance information that mitigation was available, relocation costs were available. We have been told that that is not the case and this is very frustrating to us.

One of the things I would also recommend—at least in our county area, FEMA came in before the actual declaration, held a meeting of cities and our county, and then communities and counties around Story County. At that meeting, they provided a lot of information and a lot of good information so that when the declaration did occur, we were ready to proceed with the disaster service reports. It did ease our ability to respond.

In closing, I would like to say that my situation with FEMA has been—every time we meet, it has been an adversarial situation until Wednesday. We should not be adversaries. We should be partners. They should be working with us to provide the most service to these communities because we are serving the people, and that goes right to the heart of it: the service to the people.

Again, one county's experience doesn't necessarily mean that FEMA isn't doing the job because, again, the reports I have had back—most of them have been very positive. But the thing that occurs when—it makes a big difference when it is your county.

Again, I want to thank you for the opportunity of appearing here today and will certainly be happy to answer any questions you may have.

Mr. BORSKI. Thank you, sir.

Mr. Whitfield, did you have any oral testimony?

Mr. WHITFIELD. Thank you, Mr. Chairman.

Much of what is covered in my report has already been covered by other people here. I would like to summarize the written comments and tell you just a little bit about Scott County and how it is configured because it had some bearing on our flood this year.

Scott County, Iowa is located on Iowa's eastern edge and is bordered on three sides by rivers. The Wapsipinicon River is the northern border, which is a wild river. The Mississippi River takes a turn in our area and constitutes both the east and southern border. We have almost 100 miles of river line to contend with as our county border, which exacerbated the flood problems that we did have over the year.

At any rate, the flood impacted some 130,000 people of the 160,000 residents of our county and encompassed also five cities.

Our disaster preparation has been an effort by the Emergency Management Agency and the municipal officials involved. Our agency is governed by chief elected officials from each one of the municipalities in our county so that we have that input. Our primary planning responsibility is to develop a multi-hazard plan, which we have done over the past 2 to 3 years. As our State director pointed out, that is one of our major emphases in our ability to respond to this flood.

We utilized the experiences we had in the flash flood of 1990—which also resulted in a presidential declaration, by the way—that was two 100-year floods within a week's period of time. So we have had some experience with that.

We have developed a command system that essentially requires that each one of the communities involved establish a command center. We have an emergency operations center. That center is where we try to coordinate most of the activity that occurs in the response activities.

Prior to the flood, we activated our plan and began meeting with the officials involved that would be impacted by the flood. We started meeting some 2 to 3 weeks prior to the flood because we had some knowledge that we would have a flood. We established our individual command centers and our emergency operations center on the day that we reached flood level, which is in fact 15 feet in our area.

The events and the conditions that precipitated the flood have been well-documented. One of the reasons that I gave you the description of our county is that we were further influenced by the fact that the Wapsipinicon has been at flood stage since about February of this year, which provides us an influx of water at our northern most point of our county. So in addition to the Mississippi, we also had the Wapsipinicon flood along with associated farmland and people affected by that river. So we had actually been in flood operations since about March or April or so.

It does create some kind of a problem for us. Part of our county is protected by a seawall or a dike. The city of Bettendorf, which is one of our primary cities, does have a seawall. Davenport, as most people are probably aware at this point, does not have. Also, there were a couple three other small cities that were impacted somewhat by the flood. They also do not have a flood wall.

One of the problems we encountered in our flood preparation—and it is inherent in any flood preparation that you begin sometime prior to that flood arrival—one of the problems we had with this flood was the flood forecasting where some 2 to 3 weeks prior to the flood we were given flood forecasts on a 3-day basis. Those flood forecasts kept increasing on a daily basis so that not until about 3 days before the actual crest did we actually receive what the final crest would be. That created tremendous problems in our preparation because we did not know for sure exactly what that level was going to be.

Damages? Approximately $4 million in public damages for our five cities. We do not know the final figure at this point. Some 650 homes, apartment buildings, and public dwellings were affected as well. Again, we do not know the final figures on that.

The FEMA response during this flood—and our comparison is with the presidential that we had in 1990—the FEMA response during that flood was the disaster assistance application center. That was basically their response. Suffice it to say that there were a number of problems with that operation in terms of communication coordination and with the then existing FEMA organization.

The communication coordination during the 1993 flood was much, much more effective. We relied to a great extent on the State of Iowa and the emergency management office for our coordination with the Federal officials. They did an outstanding job of establishing those links and maintaining those links of communication and coordination. We feel like the whole operation was much more effective during this period of time.

One of the improvements we would like to specifically address—and it is a minor one but a most confusing one for our people in terms of disaster relief. When the disaster assistance offices are open, they are open within 3 days of the presidential declaration. At that point in time, our entire operation was still on a 24-hour emergency basis. Most of our houses were inundated with water and continued to be throughout the time the disaster assistance centers are open.

It is extremely difficult and confusing for our people to have to have an application filed, or have to come back, or have to call a phone number. We would suggest some type of flexibility in that process so that once those disaster assistance centers are open—and they should be open very quickly because of some of the temporary needs that we have—however, some of the flexibility should be that these people are able to come back at some point in time when the water has gone down and they can adequately assess what their property has or has not done. I think that process should be looked at very clearly.

The initial damage assessment that is required for a presidential declaration of disaster is fairly straightforward. However, during this disaster, the disaster was declared without requiring an initial damage assessment. Later on we were asked to provide one, which is kind of like going back to school again. But we found the guidelines in this a little bit confusing and they should be looked at.

Our mitigation comments relate to a mitigation project that we have submitted from our 1990 flood. We have had that project in place now for about 2.5 years. To summarize, we find the rules a little confusing, the delays are unexplained, and our officials at this point in time are not very encouraged about the mitigation program. I have no solutions for that, but it certainly should be looked at. For us, it is a very confusing process.

I have a couple of comments. I believe that FEMA did an excellent job in this disaster and they should clearly remain the coordinating point for those Federal agencies in direct cooperation with the States. I believe one thing, that the local municipalities will always remain the first respondents to any disaster and that we must maintain our capability and our ability to train, to exercise, and to make sure that our people are prepared to respond. We must have sufficient funding to do that. Most of us are short staffed. That is an area that certainly needs some looking at.

I believe that the State and Federal Government did an excellent job in responding to this disaster. I hope we don't have to do it again next year.

At this point, I will conclude my remarks, Mr. Chairman.

Mr. BORSKI. Thank you, sir.

Mr. Schwendemann.

Mr. SCHWENDEMANN. Thank you, Mr. Chairman.

Mr. Chairman, committee members, and committee staff, my name is Eugene Schwendemann. I am the County Executive for St. Charles County, Missouri. It is an honor and a privilege to appear before the subcommittee to testify. With me today is Gary Schuchardt, director of the St. Charles County Emergency Management Agency.

St. Charles County is located approximately 25 miles west of St. Louis and has a population of 230,000 residents. We are the fastest growing county in the State of Missouri and are in the top 10 fastest growing counties in the country.

As you can see from the photos, the Mississippi and Missouri rivers meet in St. Charles County. Therefore, we had the dubious honor of the worst flooding during the great flood of 1993. Our flood started in late March and early April and it intensified throughout the summer months. Even today parts of St. Charles County still has water standing on it.

We were lucky in the sense that we did not have any deaths as a direct cause of the flooding. However, it will take many, many years for the lives of the St. Charles County residents to get back to some form of normalcy.

I would like to say that with all things taken into consideration, every agency did a remarkable job in doing what they were supposed to do.

I would now like to take the opportunity to give the subcommittee some of my recommendations to better help local jurisdictions in aiding the victims of these types of disasters.

There are inconsistencies between the FEMA hazard mitigation and disaster assistance program. Many of the disaster assistance programs are not very user friendly to victims nor local governments. Most programs seem to have been designed at the Federal level with no local experience or input. Local governments and their emergency management agencies are not considered participating agencies. They do not share with us the vital disaster recovery information.

Duplication of benefits lists were not shared with local governments. The listing of national flood insurance programs were difficult to obtain. Timely and accurate lists of claim information are not available to local governments. The mailing addresses of dislocated disaster victims were denied to local governments.

Hazard mitigation and disaster assistance programs are inconsistent and they send mixed and confusing messages. We talked about wanting to discourage people from moving back into the flood prone areas, or after flooding occurs, turning the land back to its natural habitat. However, the Federal Government is quick to respond in handing out money to assist those affected in order that they may be able to rebuild. Buy-out proposals leave more ques-

tions and take too long in becoming a reality, if it becomes a reality at all.

The floods of 1993 have highlighted the need to increase funding of long-term flood hazard mitigation programs, such as Section 1362. These programs would have a powerful impact on reducing costs to local, State, and Federal agencies by decreasing the number of structures vulnerable to the flooding, fewer dollars required for emergency disaster relief and flood insurance, and the insurance and funding is needed not only to purchase and relocate, but also for flood-proofing and education.

This will allow people the opportunity to move and have a better quality of life. Using the funds in this way would enable communities to have a long-term permanent effect on reducing hazards in the flood plain.

The most important lesson to be learned from the great flood of 1993 is that we need to spend more money toward preventing the problem. We always seem to allocate money toward putting things back the way they were. We need to invest more toward a comprehensive solution to the problem. We do not need to put billions of dollars toward the problem and only $1 million toward the solution.

Mr. Chairman, let's not let a group of analysts look at this matter for the next 10 years. We all need to work together to come up with a comprehensive flood plain management plan now.

Thank you, Mr. Chairman, committee members, and committee staff. Thank you very much for your time. Mr. Schuchardt and I will answer any questions you may have.

Mr. BORSKI. Thank you very much, sir.

Let me start with you, Mr. Mathison, and I invite each member of the panel to respond.

Based on your experience with this disaster, is FEMA doing enough to provide hazard mitigation assistance to local communities?

Mr. MATHISON. Well, I just made a note here and if we had time for a few comments later—I notice one of the things that is reoccurring—I call us the local panel members today—is that mitigation seems to be coming up in all of our situations. I would have to say no. I do not think FEMA is responding rapidly enough.

As an example, I met with the two representatives Wednesday morning. Until that day, I had no idea. We had been waiting to hear about our building. That morning, the gentleman told us, "Well, you will know by November 15th." Somebody from FEMA should have told us that before last Wednesday. If they had, we probably would have been a little more patient. But not knowing that, it stretches your patience to the utmost.

Mr. WHITFIELD. I think there are two areas that FEMA needs to seriously look at. One is mitigation. I look at this from the local perspective and the problems that we have had with mitigation.

I think we did an excellent job during the flood in our response plan, and that is something that we have all worked on for several years and basically followed some guidance from FEMA and that sort of thing. However, one of the areas where we are lacking is the mitigation because of the confusion factor. It is much easier for us to put our efforts into preventing disasters, if you will, by pre-

ventative measures. But we need a consistent policy in order to do that from the national level.

Number two—and it is not directly related to mitigation—is recovery. A recovery plan does not now exist as far as I am concerned and needs to be developed because we do not have consistent guidelines for the recovery process. It varies from disaster to disaster. It certainly should have some clear guidelines.

If we are this good at response—and I think we are pretty good at it by now—I think we can develop the same kind of expertise in recovery that we do in response. I think that is something we really need to work on.

But the mitigation for our people makes a lot more sense than trying to go back in and clean up the mess.

Mr. SCHWENDEMANN. Basically, I think FEMA did a good job. There were a few minor glitches here and there, but for the most part FEMA was there in a timely manner. They got there and set up their center within a short period.

Mr. BORSKI. Mr. Schuchardt, let me start with you in the next round.

How can FEMA and other Federal agencies better coordinate disaster efforts with local communities, in your view?

Mr. SCHUCHARDT. I can't really blame the State Emergency Management Agency directly for this because I knew they were shorthanded with such a monstrous disaster that occurred in the State of Missouri, but being able to have enough funding and the capability to have a liaison in major emergency operation centers. It does cut down on confusion, allows you to ask various questions not only for emergency response, recovery efforts, to be able to address issues that come up that the elected officials and victims need to know. This would help greatly.

I compliment Mr. Witt for the improvements he has sought so far. I think he is going to be a great asset to the Federal Emergency Management Agency.

Looking back and comparing what happened during Hugo—and I followed that completely through—the response there was totally different if you look at the overall view of things.

If I can, I would like to again emphasize the need for the mitigation efforts and buy-out program support. Many of these communities don't have the money to come up with that 50 percent. I think what Congressman Volkmer is doing right now is going to be a great aid to that and urge support to get the buy-out program moving, and as soon as possible. We have a lot of victims that are hurting out there and they need that option. If we really are sincere about flood plain management, we need to put something out there that gives them an opportunity to reduce the risk of loss of life and improve their lifestyle.

Mr. WHITFIELD. I would like to echo the comments. I think the mitigation efforts, as I said before, are probably as important or more important right now than our response efforts because that is where we need to work. I am afraid that we still have people out there as a result of this flood who have not, for whatever reason, been able to get in simply because of the confusion factor that we now have.

Mr. BORSKI. I would again ask each of you to respond, if you care to.

Did you receive training and information from your State and Federal agencies to know what assistance and equipment would be available during an emergency?

Mr. MATHISON. We did not receive a lot of training, but we have received some training. I think most of our training was through our local emergency management county director. That person has received training from the State and through Federal programs. I really feel that that was a very big advantage to have that training available through that person. As Ellen Gordon mentioned, every county in Iowa, by code, is required to have an emergency management director. I really feel that this gives us a step ahead in regards to taking action for these kind of programs.

We are able to act rather than react.

Mr. SCHWENDEMANN. I believe every chief elected officer in the county should go through the training. I have been to 75 percent of them so far, but I need to go to a couple more. If it wasn't for the training I have received from SEMA, I don't think we would have had as good an operation as we did during this flood. It taught me a lot. I think it eases the tension. At least the people know that you know something about what is going on rather than just guessing.

Mr. SCHUCHARDT. I have been through all the FEMA training courses in professional development series and many other specialty areas. I believe very much that emergency managers as well as their CEOs—and I compliment mine because he did take the time to learn about what emergency management is all about prior to the disaster.

One of the key areas is training. The training is provided by the Federal Emergency Management Agency and the State emergency management agencies, but the funding programs that come from the Federal down to the State and are passed on to the locals in the form of training as well as the emergency management assistance programs. That makes or breaks the program. It is very important to be prepared. Being prepared includes training and includes exercises. Our communities have been through many exercises, at least one annually. It looks like we have had three live ones this year with three floods from April on.

But training is very important not only for emergency management but for the elected officials to understand what is available there.

Going back to resources from the State, when I would call for resources there is one thing I might mention. In some cases, services such as generators were offered. We accepted those to utilize them, but we had to do some major fixing and major repairs when we were in the emergency response to make them work. So maybe when we look at our resources—and resources are the key to emergency management—we need to make sure to identify what kind of surprises might come in in terms of several days of repair when you are trying to save lives.

Mr. BORSKI. Mr. Whitfield, what do you think led to the improved communications and coordination this year compared to the 1990 floods? Was the improvement on the State or Federal level?

Mr. WHITFIELD. I think it was both, Mr. Chairman, and also on the local level. Hopefully, as we get older we get smarter in terms of understanding mechanisms, the information sources. I think what has happened over the last 2 years has simply been a desire to enhance the process by coordination and communication with the State level, and also in planning.

Going back to the last question, let me just say that the information is very, very important that we get from FEMA, but also the mechanism by which we receive that information, as a very practical matter during an emergency operation, is that it should have some kind of a standardized mechanism to get it to us. By that I mean that as a local director I run an emergency operation center 24 hours a day with two people. It is very difficult for me to comprehend all the information that I need to know at that point in time. That mechanism must be coordinated through the State and through some standardized process so that I don't miss the information and we can get it all.

I think FEMA must work very closely with the States in order to coordinate. They have the resources and the expertise to do that. I have a very, very short staff and it is very difficult for us to provide people to coordinate directly with FEMA, with the Corps of Engineers, with the Coast Guard, and with all those Federal agencies. That must be done through a single source.

Mr. BORSKI. Mr. Schwendemann, in your testimony you state that FEMA was not really visible during the response phase of the disaster. Could you comment further on this?

Mr. SCHWENDEMANN. We do have the DAC center sitting over there, but the problem was that the people would not go to it. It just didn't seem like it was working the way it should have. Some of our people probably have not been to a DAC center at all and will not call the 1–800 number. We can't force them to do this, but it does create a problem for us.

I think what needs to be done to kind of help out is the information given that the other agencies have should be given to us so that we can contact the people and at least see if they are coming back to the county to live or if they moved out or what is going on because we really don't know a lot of times.

Mr. BORSKI. I have no other questions or comments.

Does anyone have a further comment they would like to make?

Mr. SCHWENDEMANN. I might mention that there are four phases. Every emergency manager learns this. It is kind of a continuous cycle of emergency management. You go from the preparedness to the response, recovery, and mitigation. Basically, we are covering one of those phases as being very important to the future flood plain management and other disasters that may occur of a similar nature.

When we say response, we think of emergency response. In other words, at the very onset of a major catastrophic event that occurs. The jurisdiction is really the primary responsibility for that response. When it goes beyond its local resources, of course, then we have to reach out and we have to find the resources from whatever private or public sector. We need to know what those resources are so that there can be a quick response, which is very important.

Again, I want to go back and emphasize that it is important that the emergency management programs in the various communities be funded, and also the mitigation program as well.

Mr. MATHISON. Earlier I had mentioned that there were two things going through my mind as we were sitting here that seemed to run very similar. You asked one of the questions, and that happened to be about mitigation.

The other thing I was thinking that seems to be a general consensus is some of the frustration that is developing with the buy-out program. I think it is fine that there is 50 percent Federal money available for buy-outs, but that really puts a community on the spot that does not have cash reserves available to come up with that other 50 percent. It is difficult for the people who are sitting there whose homes are inundated seeing that there is 50 percent Federal money available but a community that does not have that available.

In Iowa, virtually the only source of funds is property taxes. That creates a real difficulty for those communities to come up with an additional $1 million to match that buy-out. I really feel that FEMA should look—and I know everything we sit here and say, we are talking about more Federal money, and that all comes from tax dollars. But it also has to come back to the people who need it. I would hope that that could be a possibility in the future.

Mr. BORSKI. If there are no further comments, there are no further questions from the subcommittee.

I thank you very much for coming to Washington, D.C. today, for your patience in waiting around for us, and you perform a great service not just to your local communities but also to the Federal Government.

With that, this subcommittee hearing is adjourned.

[Whereupon, at 2:12 p.m., the subcommittee was adjourned, to reconvene subject to the call of the Chair.]

PREPARED STATEMENTS SUBMITTED
BY WITNESSES

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DEPARTMENT OF TRANSPORTATION

U. S. COAST GUARD

STATEMENT OF REAR ADMIRAL WILLIAM J. ECKER

ON THE FEDERAL RESPONSE TO THE "GREAT FLOOD OF 93"

BEFORE THE

SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT

PUBLIC WORKS AND TRANSPORTATION COMMITTEE

HOUSE OF REPRESENTATIVES

OCTOBER 28, 1993

(71)

Rear Admiral William J. Ecker
Chief, Office of Navigation Safety and Waterway Services
United States Coast Guard

Rear Admiral William J. Ecker assumed duties as Chief, Office of Navigation Safety and Waterway Services, at United States Coast Guard Headquarters, Washington, D.C., in September 1991. He is director of programs for: search and rescue; recreational boating safety; aids to navigation; radio navigation; rules of the road and navigation regulations; vessel traffic services; bridge administration; domestic and polar ice operations; consumer affairs; and the Coast Guard Auxiliary, a civilian volunteer force of about 40,000.

Prior to this assignment, Rear Admiral Ecker served for two and one-half years as Commander, Second Coast Guard District in St. Louis, where he directed Coast Guard operations on more than 6,500 miles of navigable waterways in all or parts of 22 states.

Rear Admiral Ecker graduated from the Coast Guard Academy in 1960 and served in a variety of seagoing and shore assignments during his career. He served on Coast Guard cutters WESTWIND, WINNEBAGO, RESOLUTE, and MELLON. The tour on CGC MELLON included deployment to Vietnam.

Shore assignments included duty as assistant professor in the engineering department at the U.S. Merchant Marine Academy; Chief, Information and Analysis Staff in the Office of Merchant Marine Safety, Washington, D.C.; Commanding Officer of the Marine Inspection Office, New Orleans, LA; Commanding Officer of the Marine Safety Office in Mobile, Ala.; Chief of Operations at the Ninth District in Cleveland, Ohio; Deputy Chief in the Office of Marine Safety, Security and Environmental Protection, Washington, D.C.; and Chief of Staff of the Fifth Coast Guard District, in Portsmouth, Virginia.

Rear Admiral Ecker's decorations include the Legion of Merit, the Meritorious Service Medal (3), the Coast Guard Commendation Medal (4), the Navy Commendation Medal, the Commandant's Letter of Commendation Ribbon (2), the Coast Guard Unit Commendation with "O" Device, the Coast Guard "E" Ribbon (2), the Coast Guard Bicentennial Unit Commendation Ribbon, the Navy Meritorious Unit Commendation, the National Defense Service Medal (2), the U. S. Coast Guard Arctic Service Medal, the Vietnam Service Medal, the Humanitarian Service Medal, the U. S. Coast Guard Special Operations Service Ribbon, the U. S. Coast Guard Sea Service Deployment Ribbon (3), the RVN Gallantry Cross Unit Citation, the RVN Civil Action Citation, the RVN Campaign Medal, the Coast Guard Rifleman Marksman Ribbon and the Coast Guard Pistol Sharpshooter Ribbon.

A native of Brooklyn, N.Y. Rear Admiral Ecker is married and has three children.

DEPARTMENT OF TRANSPORTATION

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GOOD MORNING, MR. CHAIRMAN. IT IS MY PLEASURE TO APPEAR BEFORE THIS DISTINGUISHED SUBCOMMITTEE TODAY TO ADDRESS THE COAST GUARD'S RESPONSE ROLE TO THE "GREAT FLOOD OF '93". THE SIZE AND DURATION OF THE EVENT MADE IT THE LARGEST RESPONSE EVER MOUNTED BY THE SECOND COAST GUARD DISTRICT, OUR INLAND DISTRICT HEADQUARTERED IN ST. LOUIS, HAVING RESPONSIBILITY FOR ALL OF THE WESTERN RIVERS SYSTEM. FIELD LEVEL RESPONSE TO THE FLOOD WAS CENTERED IN TWO UNITS, MARINE SAFETY OFFICES ST. LOUIS, MISSOURI AND PADUCAH, KENTUCKY. THEIR COMBINED AREAS OF RESPONSIBILITY INCLUDE THE UPPER MISSISSIPPI RIVER, THE ILLINOIS RIVER, THE MISSOURI RIVER AND THEIR TRIBUTARY RIVERS FROM ST. PAUL, MINNESOTA TO BELOW CAIRO, ILLINOIS.

IN APRIL 1993, COAST GUARD UNITS HAD A PREVIEW OF THE FLOODING TO COME WHEN THE MISSISSIPPI GAUGE CRESTED 6.5 FEET ABOVE FLOOD STAGE AND DID NOT DROP BELOW FLOOD LEVELS FOR SIX WEEKS. THE DELUGE RESUMED IN MID-JUNE AS DAILY STORMS ATTEMPTED

TO TURN THE UPPER MISSISSIPPI BASIN INTO A SIXTH GREAT LAKE. BY THE END OF JUNE, IT BECAME APPARENT THAT THE UPPER MISSISSIPPI RIVER, WHICH HAD NOT RECEDED TO NORMAL LEVELS FROM PREVIOUS HIGH WATER STAGES, WOULD SOON RISE ABOVE FLOOD STAGE FROM ST. PAUL TO ST. LOUIS.

ON 25 JUNE 1993, MARINE SAFETY OFFICE ST. LOUIS ACTIVATED COMMANDER COAST GUARD FORCES (CCGF) AND PADUCAH DID THE SAME ON 9 JULY 1993. CCGF IS THE OPERATIONAL COMMAND AND CONTROL ORGANIZATION WHICH RESPONDS TO NATURAL OR MANMADE DISASTERS, AND OTHER EMERGENCIES, WHEN THE DEMANDS OF THE SITUATION OVERWHELM AVAILABLE RESOURCES ASSIGNED TO ANY ONE COAST GUARD FIELD COMMANDER AND THE NUMBER OF COAST GUARD COMMANDS INVOLVED NECESSITATES A COMMAND AND CONTROL LEVEL ABOVE NORMAL. CCGF BROUGHT SURFACE ASSETS (BUOY TENDERS, BOATS AND FLOOD PUNTS), AIR ASSETS (HH-60, HH-3, HH-65 HELICOPTERS, CG FIXED WING AIRCRAFT AND CG AUXILIARY AIR ASSETS), REGULAR AND RESERVE PERSONNEL, COAST GUARD AUXILIARY, AND COAST GUARD CIVILIAN PERSONNEL UNDER ONE COMMAND. THE PRIMARY FIELD TACTICAL UNIT WAS THE DISASTER RESPONSE UNIT (DRU) WHICH CONSISTED OF EIGHT PERSON TEAMS, EACH EQUIPPED WITH THREE 16 FOOT FLOOD PUNTS. AT THE HEIGHT OF FLOOD OPERATIONS, THE COAST GUARD HAD ABOUT 500 PERSONNEL IN THE FIELD ASSIGNED TO FLOOD OPERATIONS, INCLUDING SEVERAL HUNDRED RESERVISTS WHO PARTICIPATED IN EITHER A VOLUNTARY OR INVOLUNTARY CALL-UP MODE. THE IMPORTANCE OF THE COAST GUARD RESERVES TO THE SUCCESS OF COAST GUARD FLOOD RESPONSE ACTIONS CANNOT BE MINIMIZED. THEY PROVED TO BE HIGHLY MOBILE, RESPONSIVE, SKILLED, AND CAPABLE. AT THE CONCLUSION OF THE FORMAL RESPONSE, THE COAST

GUARD HAD CONDUCTED MORE THAN 2,400 MISSIONS AND ASSISTED MORE THAN 2,900 PEOPLE. ELEMENTS OF THE CCGF ORGANIZATION REMAINED ACTIVATED AT BOTH LOCATIONS THROUGH 3 SEPTEMBER 1993.

THROUGHOUT THE FLOOD RESPONSE PERIOD, THE MULTI-MISSION CAPABILITY OF THE COAST GUARD WAS MUCH IN EVIDENCE AS COAST GUARD PERSONNEL SHIFTED SEAMLESSLY AMONG MARINE SAFETY, MARINE ENVIRONMENTAL PROTECTION AND HUMANITARIAN ASSISTANCE ROLES. WATERWAYS MANAGEMENT, SEARCH AND RESCUE, AIDS TO NAVIGATION, LAW ENFORCEMENT, AND MARINE ENVIRONMENTAL PROTECTION WERE SOME OF THE MANY COAST GUARD MISSIONS PERFORMED IN RESPONSE TO THE CHANGING WATERWAY SITUATION. ASSISTANCE WAS RENDERED TO MANY FEDERAL, STATE AND LOCAL GOVERNMENT AGENCIES, AS WELL AS THE RED CROSS, SALVATION ARMY AND COUNTY ANIMAL WELFARE AGENCIES. ALTHOUGH MANY TASKINGS WERE NOT TRADITIONAL COAST GUARD ROLES, OUR PERSONNEL WERE IN A POSITION TO RENDER ASSISTANCE WHEN OTHER AGENCIES WERE NOT AND SIMPLY HELPED WHEN AND WHERE THEY COULD. COORDINATION WITH FEDERAL, STATE AND LOCAL AGENCIES WAS ACCOMPLISHED THROUGH REGIONAL RESPONSE TEAMS (UNDER THE NATIONAL RESPONSE PLAN), DISASTER FIELD OFFICES/EMERGENCY SUPPORT FUNCTIONS (DFO/ESF), COUNTY AND CITY EMERGENCY OPERATIONS CENTERS (EOC), AS WELL AS NORMAL WORKING RELATIONSHIPS WITH THE U.S. ARMY CORPS OF ENGINEERS (COE), AND OTHERS.

COAST GUARD CONTINGENCY PLANNING INCLUDES PREPLANNING FOR POLLUTION PREVENTION AND RESPONSE. OPERATORS OF MARINE TRANSPORTATION OIL AND HAZARDOUS MATERIAL RELATED FACILITIES SECURED ALL MARINE TRANSFER SYSTEMS. PIPING WHICH MIGHT HAVE BEEN AFFECTED BY THE FLOOD, ESPECIALLY THAT FROM THE LOADING DOCK

BACK TO THE DISTRIBUTION SYSTEM, WAS EMPTIED OF ALL PRODUCT. IN SOME CASES THE PIPING WAS FILLED WITH WATER TO MINIMIZE BUOYANCY IN THE EVENT OF SUBMERGENCE. THERE WERE NO FLOOD-RELATED POLLUTION INCIDENTS AT MARINE TRANSPORTATION FACILITIES. MANY OTHER SHORESIDE FACILITIES PREPARED FOR FLOODING BEFORE EVACUATING -- UNDERGROUND TANKS WERE CAPPED, SOME TANKS WERE EMPTIED, SOME EMPTY TANKS WERE BALLASTED WITH WATER, PORTABLE TANKS MOVED, ETC.

WITH REGARD TO VESSELS, FLEETING, MOORING, AND HARBOR AREAS WERE INSPECTED TO ENSURE ADEQUACY OF MOORING ARRANGEMENTS. BARGES WHICH COULD NOT BE PUT INTO FLEETING AREAS WERE TENDED BY FULLY CREWED TOWING VESSELS. SELF-PROPELLED VESSELS WERE FULLY CREWED. TOWING COMPANIES HAD VESSELS IN ALL HARBOR AREAS READY TO RESPOND IMMEDIATELY TO BREAKAWAYS AND OTHER EMERGENCIES. THERE WERE NO CATASTROPHIC RELEASES OR MAJOR POLLUTION INCIDENTS ASSOCIATED WITH THE FLOOD. THE MOST SPECTACULAR FLOOD-CAUSED EVENT WAS AN EXPLOSION AT AN AUTOMOTIVE SERVICE STATION. THERE WERE THOUSANDS OF MINOR DISCHARGES FROM INUNDATED VEHICLES, MACHINERY, ROADWAYS AND PARKING/EQUIPMENT LOTS, HOME HEATING FUEL TANKS, MANUFACTURING FACILITIES, ETC. GENERALLY, THE EXTENT AND SEVERITY OF THE FLOODING PRECLUDED ANY EFFECTIVE RESPONSE TO THESE MINOR DISCHARGES. ACCESS TO MOST AREAS WAS IMPOSSIBLE AND THE FLOOD CONDITIONS FAR EXCEEDED THE OPERATING PARAMETERS AND CAPABILITIES OF EXISTING EQUIPMENT. RIVER FLOW RATES WERE MORE THAN 10 TIMES NORMAL, WITH CURRENT VELOCITIES OFTEN EXCEEDING 10 MPH. AT ITS CREST, THE FLOW RATE AT ST. LOUIS EXCEEDED 8 MILLION GALLONS PER SECOND; THE RESULT WAS AN EXTREMELY FAST DISPERSAL OF ANY SPILLED MATERIALS.

RESPONSE TO OIL AND HAZARDOUS MATERIALS INCIDENTS DURING THE FLOOD AND POST-FLOOD CLEANUP FALL UNDER THE PURVIEW OF THE STATES AND THE ENVIRONMENTAL PROTECTION AGENCY (EPA). COAST GUARD ACTIVITY WAS GENERALLY FOCUSED ON HELPING LOCAL RESPONSE AGENCIES SECURE DRIFTING TANKS IN PROBLEM AREAS AND IN PROVIDING INFORMATION TO THE EPA THROUGH THE EMERGENCY SUPPORT FORCE (ESF) #10 ORGANIZATION. THE COAST GUARD NATIONAL STRIKE FORCE ASSISTED EPA ON SCENE COORDINATORS IN LOCATING TANKS AND DRUMS AND IN COORDINATING REMOVAL. THE NUMBER OF TANKS, DRUMS, CYLINDERS, AND OTHER CONTAINERS ADRIFT IN THE FLOOD AREA WAS ENORMOUS. TO GET AN IDEA OF HOW MUCH MATERIAL WAS INVOLVED, EPA REGION VII (KANSAS CITY) REPORTED THAT IN 21 COUNTIES WITHIN THE STATES OF MISSOURI, IOWA, AND KANSAS, WITH CLEANUP FAR FROM COMPLETE, AS OF 19 OCTOBER, MORE THAN 15,000 CONTAINERS HAD BEEN RECOVERED. ABOUT HALF OF THE CONTAINERS WERE EMPTY OR CONTAINED RIVER WATER; THE OTHER HALF REQUIRED SAMPLING AND TESTING TO DETERMINE PROPER DISPOSAL REQUIREMENTS. OTHER CLEANUP CONCERNS INCLUDED HOUSEHOLD AND INDUSTRIAL HAZARDOUS WASTES CONTAINED IN FLOOD-DAMAGED PROPERTIES, DISCHARGE OF AGRICULTURAL CHEMICALS (PRIMARILY FERTILIZERS AND PESTICIDES) FROM INUNDATED FARM LAND AND STRUCTURES, AND IMPACTS ON WATER AND SEWAGE TREATMENT FACILITIES.

UNLIKE MOST NATURAL DISASTERS, THE FLOOD SUSTAINED RECORD OR NEAR RECORD HIGH RIVER LEVELS FOR MANY WEEKS. CCGF ST. LOUIS KEPT AS MANY AS 18 DISASTER RESPONSE UNITS (DRU'S) DEPLOYED TO THREATENED COMMUNITIES FROM DAVENPORT, IOWA TO CHESTER, ILLINOIS ON THE MISSISSIPPI RIVER, JEFFERSON CITY TO WEST ALTON ON THE MISSOURI RIVER, AND HARDEN, ILLINOIS ON THE ILLINOIS RIVER. CCGF

PADUCAH HAD EIGHT DRU'S DEPLOYED FROM TWO LOCATIONS, CAPE GIRADEAU, MISSOURI AND OLIVE BRANCH, ILLINOIS. INITIAL TASKING PERFORMED BY DRU'S WAS LAW ENFORCEMENT, AS SAFETY ZONES WERE ESTABLISHED ON THE RIVERS TO LIMIT VESSEL AND BOAT WAKES ON EXTENSIVE REACHES OF THE MISSISSIPPI RIVER THREATENED BY HIGH FLOOD WATERS. UNITS ALSO ENFORCED SAFE BOATING, AS WELL AS ANTI-LOOTING ACTIVITIES. OTHER MISSIONS INCLUDED RESCUING OR ASSISTING FLOOD VICTIMS, PATROLLING FLOODED AREAS, ENVIRONMENTAL RESPONSE, FERRYING HOMEOWNERS TO SURVEY PROPERTY, LEVEE INSPECTIONS WITH COE AND LOCAL PERSONNEL, TRANSPORTING LOCAL, COUNTY, AND STATE AGENCY REPRESENTATIVES MAKING ASSESSMENTS OF FLOOD DAMAGE, ASSISTANCE TO THE AMERICAN RED CROSS, TRANSPORTING POWER COMPANY EMPLOYEES TO DISCONNECT ELECTRICAL LINES, TRANSPORTING WATER QUALITY PERSONNEL TO PUMPING STATIONS, DELIVERING FOOD AND WATER SUPPLIES TO ISOLATED COMMUNITIES, TRANSPORTING SAND BAGS AND ASSISTING WITH SANDBAGGING OPERATIONS, ASSISTING WITH ANIMAL RESCUES.

AVIATION ROLES WERE TYPICAL OF OTHER DISASTER RESPONSES--- SEARCH AND RESCUE, SAFETY ZONE ENFORCEMENT, SURVEILLANCE, ASSESSMENT, POLLUTION PATROLS, VESSEL TRAFFIC CONTROL, OVERFLIGHTS FOR MEDIA AND SENIOR GOVERNMENT OFFICIALS, AND TRANSPORTATION OF PERSONNEL AND CRITICAL SUPPLIES. COAST GUARD AVIATION ASSETS, AT VARIOUS TIMES, CAME FROM AIR STATIONS CHICAGO, DETROIT, TRAVERSE CITY, NEW ORLEANS, MOBILE, AND ELIZABETH CITY.

THE COAST GUARD AUXILIARY, A COMPLETELY VOLUNTEER CIVILIAN FORCE THAT AUGMENTS THE COAST GUARD, PROVIDED PERSONNEL,

AIRCRAFT, LAND MOBILE RADIO FACILITIES, AND VESSELS. APPROXIMATELY 180 AUXILIARISTS WERE INVOLVED AND THEIR PARTICIPATION WAS VITAL IN AREAS SUCH AS WATERBORNE PATROLS, INSPECTING VESSELS, OPERATING CITY OWNED BOATS FOR EMERGENCY OPERATIONS CENTERS, AUGMENTING EMERGENCY OPERATION CENTERS, PROVIDING EMERGENCY COMMUNICATIONS, AND PASSING OUT INFORMATION NOTICES AT LAUNCHING RAMPS AND MARINAS. THEIR ENTHUSIASM TO ASSIST IN WHATEVER MANNER POSSIBLE WAS TYPICAL OF THE EVERYDAY SUPPORT THEY PROVIDE COAST GUARD OPERATIONAL UNITS DURING NON-DISASTER PERIODS.

THE GREAT FLOOD OF 93 WAS NOT WITHOUT IMPACT ON COAST GUARD FACILITIES. THREE FACILITIES WERE INUNDATED: COAST GUARD BASE ST. LOUIS, MISSOURI; COAST GUARD GROUP UPPER MISSISSIPPI RIVER IN KEOKUK, IOWA; AND COAST GUARD MOORINGS IN LEAVENWORTH, KANSAS. IN ADDITION, 16 HIGH LEVEL VHF-FM COMMUNICATION SITES ON THE UPPER MISSISSIPPI WERE DESTROYED BY FLOODING. THE ESTIMATED COST TO RESTORE BASE ST. LOUIS TO PRE-FLOOD CONDITION IS $8.4 MILLION. DUE TO PROBLEMS WITH GROUNDWATER AND SOIL CONTAMINATION AND CURRENT VESSEL MOORING ARRANGEMENTS, AN EXISTING MAJOR RENOVATION PROJECT HAS BEEN PUT ON HOLD AND RELOCATION OF THE FACILITY IS BEING CONSIDERED. THE EXISTING FACILITY HAS BEEN RETURNED TO PARTIAL SERVICE AS A BUOY LOADING STATION. INDUSTRIAL AND ADMINISTRATION FACILITIES ARE OPERATING CURRENTLY FROM AN INDUSTRIAL FACILITY IN NORTH ST. LOUIS.

THE ESTIMATED COST OF REPAIRS TO GROUP UPPER MISSISSIPPI RIVER, KEOKUK, IA. IS $300K. A PLANNED MAJOR RENOVATION OF THE ADMINISTRATION BUILDING HAS BEEN PUT ON HOLD. A PREVIOUS

DECISION TO RETAIN THE GROUP OFFICE IN KEOKUK RATHER THAN RELOCATE TO THE ST. LOUIS AREA IS BEING RECONSIDERED AS PART OF THE MAJOR PLANNING EFFORT FOR BASE ST. LOUIS, WITH THE MOORINGS RETAINED IN KEOKUK. THE EXISTING MOORING FACILITY AT KEOKUK HAS BEEN RETURNED TO SERVICE WHILE THE GROUP OFFICE FUNCTIONS HAVE BEEN TEMPORARILY LOCATED IN LEASED SPACE IN A LOCAL SHOPPING CENTER.

THE ESTIMATED COST TO RESTORE THE LEAVENWORTH BUILDING AND MOORING FACILITY IS $150K. THE FACILITY IS BEING RESTORED TO CONTINUE TO SERVE AS AN AIDS TO NAVIGATION MATERIALS STORAGE AND TRANSIENT RIVER BUOY TENDER MOORING AND LOADING FACILITY. THE CG RESERVE UNIT WHICH WAS LOCATED AT THE FACILITY IS TEMPORARILY HOUSED IN LEASED SPACE PRIOR TO ITS PLANNED PERMANENT RELOCATION TO TOPEKA, KANSAS.

OVERALL COORDINATION, COOPERATION, AND SUPPORT WITH OTHER AGENCIES THROUGH ALL PHASES OF THE FLOOD RESPONSE AND THE RECOVERY OPERATIONS HAS BEEN -- AND CONTINUES TO BE -- OUTSTANDING. COORDINATION WITH COUNTY/CITY EOCS WAS MANAGED BY THE CCGFS. COAST GUARD DRU'S, WHILE ENGAGED IN LAW ENFORCEMENT SUPPORT, ENFORCING NO WAKE ZONES TO MINIMIZE DAMAGE TO LEVEES AND PROPERTY, AND ASSISTING LOCAL POLICE IN FLOODED COMMUNITIES WERE COORDINATED BY THE CCGFS. COORDINATION WITH THE COE WAS MANAGED BY THE CCGFS AND THE SECOND COAST GUARD DISTRICT STAFF THROUGH THE RESPECTIVE OPERATIONS STAFFS AND THE TRAFFIC INFORMATION/MANAGEMENT CENTER ESTABLISHED AT SECOND DISTRICT HEADQUARTERS. DEPARTMENT OF TRANSPORTATION (DOT) LIAISON ACTIVITIES WERE COORDINATED THROUGH DOT-RESEARCH AND SPECIAL

PROGRAMS ADMINISTRATION (RSPA) AND ESF #1. THE SECOND COAST GUARD DISTRICT INITIATED A PRELIMINARY ENVIRONMENTAL ASSESSMENT, INCLUDING AN OVERFLIGHT ON THE UPPER MISSISSIPPI RIVER ON 14 JULY, WITH EPA REGIONS V AND VII, AND MISSOURI AND ILLINOIS (IOWA WAS UNABLE TO PARTICIPATE) TO DETERMINE THE TYPES OF POLLUTION INCIDENTS THAT WERE OCCURRING AND WHAT COULD BE DONE ABOUT THEM. THE SECOND DISTRICT ALSO INITIATED A JOINT REGION V - REGION VII REGIONAL RESPONSE TEAM MEETING ON 20 JULY TO IDENTIFY THE TYPES OF EVENTS THAT COULD BE FORESEEN, TO PLAN FOR POTENTIAL POLLUTION RESPONSE OPERATIONS, TO ESTABLISH ADVANCE ARRANGEMENTS FOR FUNDING OF RESPONSE AND CLEANUP ACTIVITIES UNDER THE OIL SPILL LIABILITY TRUST FUND AND SUPERFUND, AND TO ENSURE THAT EVERYONE UNDERSTOOD EACH AGENCY'S ROLE AND HOW ACTIVITIES WOULD BE COORDINATED. PARTICIPANTS INCLUDED EPA REGIONS V, VII, AND VIII, FEMA REGIONS V AND VII, MARAD, HHS, THE FLOOD-AFFECTED STATES, THE NATIONAL POLLUTION FUNDS CENTER, AND THE NATIONAL STRIKE FORCE. EPA, AS THE LEAD AGENCY FOR INLAND ZONE POLLUTION RESPONSE, AS WELL AS BEING THE ESF #10 CHAIR, TOOK THE FEDERAL LEAD. EPA COORDINATED FEDERAL ACTIVITY AND SUPPORT FOR THE STATES THROUGH THE DFO'S. COAST GUARD PERSONNEL WERE ASSIGNED TO DFO'S TO SUPPORT ESFS #1 AND #10 AS REQUESTED BY THE LEAD AGENCIES.

FOLLOWING THE FINAL RIVER CREST AND SUFFICIENT RECESSION OF WATERS, THE MAJOR EFFORT SHIFTED TO RECONSTITUTION OF THE WATERWAYS THEMSELVES. THE COE HAD CLOSED AND REMOVED MACHINERY COMPONENTS FROM MOST OF THE LOCKS ON THE UPPER MISSISSIPPI AND THE ILLINOIS. THE COAST GUARD HAD CLOSED MORE THAN 1200 MILES OF

RIVERS, AND OVER 5,000 BUOYS AND 750 SHORE AIDS TO NAVIGATION WERE WASHED AWAY. OLD RAILROAD AND HIGHWAY BRIDGES OVER NAVIGABLE WATERS, SECURED IN THE CLOSED POSITION, REQUIRED INSPECTION AND REPAIR OF FLOODED MACHINERY COMPONENTS. SILTING WAS ANTICIPATED TO BECOME A MAJOR PROBLEM FROM CHANNELS THAT HAD BEEN REFORMED AND RIVER BOTTOMS THAT HAD BEEN WASHED AWAY AND DEPOSITED DOWNSTREAM. SOME 3,000 BARGES AND SEVERAL HUNDRED TOWBOATS WERE STRANDED IN THE RIVERS, AND RAIN SATURATED LEVEES OFFERED THE POTENTIAL FOR FURTHER RUPTURES CAUSED BY WAKES FROM TOWBOATS AS COMMERCE RESUMED.

BUILDING UPON THE RELATIONSHIPS THAT WERE ESTABLISHED AND CONTINUED FOLLOWING THE LOW WATER CRISIS IN 1988 AND 1989, THE COAST GUARD, THE COE, AND THE TOWBOAT INDUSTRY AGREED TO ESTABLISH A JOINT OPERATIONS AND INFORMATION CENTER THAT WOULD ASSIST COAST GUARD CAPTAINS OF THE PORT IN ST. LOUIS AND PADUCAH DISTRIBUTE INFORMATION AND MAKE DECISIONS ABOUT REOPENING THE WATERWAYS TO NAVIGATION. THE CENTER, OPERATING 24-HOURS DAILY, WAS ESTABLISHED IN THE OFFICES OF THE SECOND COAST GUARD DISTRICT AND STAFFED WITH REPRESENTATIVES OF THE TOWING AND BARGE INDUSTRY, THE COE, AND THE COAST GUARD. THE CENTER QUICKLY BECAME THE HUB FOR CRITICAL DECISION-MAKING, PROMPTING HUNDREDS OF CALLS FROM INDUSTRY AND THE PRESS. PERSONNEL AT THE CENTER DETERMINED THAT A SERIES OF TEST TOWS WOULD BE REQUIRED TO ESTABLISH THE PARAMETERS FOR SAFE OPERATIONS. SEPARATE TRANSIT PROTOCOLS WERE ESTABLISHED FOR MAJOR RIVER SYSTEMS BECAUSE OF THE DIVERSE AND COMPLEX NATURE OF EACH RIVER SYSTEM. FOLLOWING EVALUATION OF TEST TOWS, NAVIGATION WAS CONDITIONALLY RESTORED.

AS THE RIVER RECEDED FURTHER, PROTOCOLS WERE ADJUSTED. TIMED DEPARTURES FROM VARIOUS LOCATIONS WERE INSTITUTED TO MAINTAIN SAFE SEPARATION OF TOWS AND ASSURANCE THAT TOWS WOULD NOT MEET AT CRITICAL BENDS/LOCATIONS/BRIDGES DURING DARKNESS. DISCIPLINE WAS MAINTAINED THROUGH MANDATORY CHECK-IN AT SPECIFIED CONTROL POINTS AND THROUGH AERIAL SURVEILLANCE. THOUGH NOT UNPRECEDENTED, THE COOPERATION BETWEEN THE GOVERNMENT AND THE INDUSTRY TO MANAGE VESSEL TRAFFIC AND TO ASSURE THE MOST RAPID AND SAFE RESTORATION OF COMMERCE ON THE MISSISSIPPI RIVER SYSTEM WAS INTENSELY TESTED. IT WILL BE THE MEASURE OF WHAT IS POSSIBLE IN THE FUTURE.

TODAY, WITH THE EXCEPTION OF RECURRING SILTING PROBLEMS IN VARIOUS SECTIONS OF THE UPPER MISSISSIPPI RIVER, COMMERCE ON THE WESTERN RIVER SYSTEM HAS BASICALLY RETURNED TO NORMAL.

THIS CONCLUDES MY TESTIMONY. MR. CHAIRMAN, I WILL BE HAPPY TO RESPOND TO ANY QUESTIONS YOU OR OTHER MEMBERS OF THE SUBCOMMITTEE MAY HAVE.

Prepared Statement of Ellen M. Gordon
Administrator, Iowa Emergency Management Division

Mr. Chairman and Members of the Subcommittee:

On behalf of Governor Terry Branstad, and the State of Iowa, I thank you for the opportunity to testify on the Federal response to the flooding disaster which occurred in Iowa this year.

As Administrator of the Emergency Management Division in Iowa, a state hard hit by the Floods of 1993, I will share with you some of the events during the preparedness, response and recovery efforts of a State that experienced a statewide devastating disaster.
The events this year continue to reinforce the need for a strong, intergovernmental system of emergency management. The intergovernmental system includes local, state and federal government agencies.

SUMMARY OF EVENTS

The 1993 flooding was the most devastating and widespread disaster in Iowa's history. These floods were preceded by below normal temperatures throughout 1992. As a result of the 1992 temperatures, a wet fall, and a heavy winter snowpack, the soil began to saturate. The March snow melt, a late winter snowfall across Northern Iowa, and heavy early spring rains added to the wet soil conditions. Those conditions were the primary factor in the flooding that began in March of 1993.

A Presidential Disaster Declaration for flooding from March 26, 1993 until April 12, 1993, was made at the request of the Governor, for fifteen (15) counties on April 12, 1993.

Repetitive weather systems in early summer produced excessive rains over the months of June and July. Iowa received 52.2" of rain from January 1, 1993 to September 30, 1993; the normal rainfall is 24.83", which is 104% above normal rainfall for the year, in the first nine months of 1993.

During this time, the streams and rivers reached flood stage and agricultural lands became even more saturated from the continuing record rainfalls. Protective dikes and levees in urban and rural areas became saturated, weakened or failed. All major rivers and streams in Iowa were affected by the heavy rains. By July 10, 1993, runoff from the Mississippi River watershed produced the highest crests on the Mississippi River since 1928. The Mississippi and Missouri rivers and their associated systems overtopped their banks affecting homes, farm lands, transportation routes, power facilities, businesses and governmental facilities.

The total number of individuals that were evacuated during the peak of the flood fighting equaled 10,415 individuals in need of emergency housing and 4,989 individuals in need of permanent housing. The total dollar amount for housing needs to date equals $70,896,224, according to local Council of Governments report dated August 4, 1993. The floods of 1993 was estimated at $3.5 billion in total losses in Iowa alone.

Of the 21 million total crop producing acres in Iowa, 6-7 million acres received flood damage. The projections are that, compared to previous years crop production, 1993 will be 40% or $1.5 to 2 billion below average. Parallel to the crop land devastation, 21,129 homes were impacted at a total estimated cost of $197,920,000, with an average damage per home of $9,367. Businesses were similarly impacted with an estimated $43.2 million in loans approved to date by the Small Business Administration alone. Many businesses also sought assistance by acquiring loans from private lending institutions.

Infrastructure damage in Iowa was highlighted by the Des Moines Water Treatment Plant failure on July 10, 1993, leaving approximately 250,000 residents and many businesses in a four-county area without water for twelve days. This incident alone was paramount in historical events.

PREPAREDNESS

Flooding was not a new experience to most of the effected jurisdictions. The degree of preparedness was adequate, however, the **magnitude** and **duration** of the flooding found many communities and government agencies unable to cope without outside assistance. It has been the emphasis within Iowa that planning, training, and exercising for a major disaster or catastrophic event is the most effective way to insure that crucial elements for response and recovery are successful.

There have been a total of six presidential declarations for flooding since the spring of 1990 and hundreds of events that were not declared by the President, causing most communities to refine their emergency operations plans time and time again. Building an effective emergency response and recovery capability obviously requires a great deal of planning and training. An emergency operations plan must be in place and must continually be revised and tested to address all hazards. The experience, combined with the training and exercising emphasis that Iowa placed on local communities and the State, led to a very effective response and recovery for the 1993 flooding.

This committee needs to understand that the funding for the emergency management programs in this nation is not what it should be. Local and State Governments operate on limited funds. They are unable to continuously be proactive and keep pace with all of the requirements placed upon them. The State of Iowa presently receives very limited (less than 30 cents per capita) Emergency Management Assistance funds from FEMA for state and local programs. Iowa currently has 56 of 99 counties participating in the Federal Emergency

Management Assistance program. This program is the funding foundation for the emergency management system. States and Local Governments rely heavily on the funding that is provided through the Federal Emergency Management Agency, to aid them in maintaining and improving the emergency response and recovery capabilities.

RESPONSE

For the second time in 1993, Governor Terry E. Branstad, July 9, 1993, asked for, and received, a Presidential Major Disaster Declaration for a period beginning April 13, 1993, and ultimately ending October 1, 1993. All 99 Iowa counties were determined to be eligible for public assistance and individual assistance.

In Iowa, we ran an abbreviated Emergency Operations Center operation for a number of days before going to a twenty-four hour per day, fully staffed operation from June 27, 1993, until August 6, 1993. The magnitude and duration of the this flooding emergency taxed many communities and quickly exceeded their abilities to respond.

At the request of the state, the Federal Response Plan was implemented in Iowa on July 11, 1993, and with federal and state personnel staffed at the Disaster Field Office in Davenport. The following Emergency Support Functions, within the Federal Response Plan, were implemented:

#1: Transportation (Department of Transportation)
#3: Public Works and Engineering (Corps of Engineers)
#7: Resource Support (General Service Administration)
#8: Health and Medical Services (Public Health Service)
#10: Hazardous Materials (Environmental Protection Agency)
Department of Defense, Defense Coordinating Officer
U.S. Forest Service

FEMA's response was effective within the scope of their mission under the Federal Response Plan. Their personnel were in the Emergency Operations Center as soon as the State requested assistance and continue to provide assistance through the recovery.

Some federal agencies maintained a presence in the State Emergency Operations Center. Agencies included FEMA, the U.S. Army Corps of Engineers and, at times, the National Weather Service. Coordination between federal and state government took place at the highest levels.

State and local government and citizens engaged in monumental efforts to protect and provide for the communities, including sandbagging, pumping, rebuilding and repairing levees, evacuations and sheltering. One of the largest problems the state faced was responding to issues as the result of the loss of the entire water system in a four county area.

The State organized special teams to address specific issues such as volunteers/donations, public information, and health and sanitation issues. The State requested and received technical assistance from other states' emergency management agencies, to include Florida, Indiana, Mississippi and Utah. The state likewise received military assistance from the states of Texas, Virginia, Ohio, Alabama and North Dakota. The military assistance was to aid in the response to the loss of the water system in the Des Moines area. All of the support Iowa received from the other states was outstanding.

The Governor not only issued disaster proclamations, he exercised his powers to waive restrictive rules and timelines that would otherwise have impeded disaster response and recovery efforts. Specifically, he:

1. Extended his disaster proclamation to enable local governments to continue to avail themselves of State resources.

2. Waived state rules requiring the advertisement of bids for certain transportation projects.

3. Suspended limitations on funding requirements for arts organizations.

4. Extended timelines for completing Emissions Inventory Questionnaire (EIQs).

RECOVERY:

There are numerous disaster recovery steps that must be considered by local government officials in the aftermath of a major disaster. Each public official has certain responsibilities in the recovery process. These officials need to know the immediate actions that must be taken following a disaster such as the initial situation report and the preliminary damage assessment. Local officials need to understand the federal disaster relief regulations and what type of assistance is available through the Stafford Act. The state and FEMA worked jointly on training initiatives to ensure that local officials were and are continually informed of the entire process.

To expedite Iowa's economic recovery from the 1993 flood damage on, July 23, 1993 the Governor ordered the creation of a State Flood Recovery Coordination Team. The team is chartered to assess the damages to the State with regard to personal and public property, agriculture and business; identify resources available in satisfying needs; educate the public and private agencies and officials on available assistance; and to provide an overall network of assistance and support service to speed recovery operations and funding.

MITIGATION

Our experience with Hazard Mitigation has evolved through seven President Disaster Declarations.

Iowa's intention during past disasters has been to maximize the potential of the program through solicitation and selection of projects oriented toward elimination, or significant reduction, of the threat to life as well as reduction of repetitive damages sustained to property. To that end, we have received applications requesting funds to support a wide variety of projects ranging from a simple emergency power transfer switch required to insure that a small community will maintain its ability to provide water for fire protection and limited residential usage to applications of a more complex nature, involving development of a device that is hoped to prevent electrical power lines from "galloping" and subsequent failure during high winds.

The mitigation program is a very important part of emergency management preparedness activities. In the State of Iowa, however, we have found it quite difficult to focus on mitigation while we are continually involved in a "flood fight" as we have been throughout the summer of 1993. Our most challenging aspect of the Hazard Mitigation Program is associated with acquiring FEMA approval for some of our Hazard Mitigation Grant Program applications. I feel that FEMA would agree that the paperwork and review process have resulted in significant confusion, delay, and aggravation as well as loss of interest by state and local officials. The review process is too cumbersome and should be streamlined. Also, the cost-sharing provisions should be modified. The program is currently a 50% federal/50% local match. The total estimate of federal assistance available for hazard mitigation is based on ten percent (10%) of the permanent work category, of the federal share of the FEMA estimate of all Damage Survey Reports under public assistance.

Iowa's plan for future administration of the Hazard Mitigation Program does not differ significantly from recent FEMA guidance. Iowa has prioritized the use of Hazard Mitigation Grant Funds to maximize the effort to remove people and property from high flood hazard areas. Given the number of applicants that we expect for these funds, we feel that, even when combined with the HUD and HOME funds for CDBG use, there will still be a significant shortfall in the amount of money available to address the total dollar amount required to complete essential projects.

In working with FEMA in the process of administration of the disaster relief programs over the course of several disasters, it has been noted that one of the problems has been FEMA's own internal communication process. The main source of the difficulty arises in each FEMA region's interpretation of the regulations regarding the disaster assistance programs.

Each FEMA regional office has a different philosophy in the interpretation of the laws and regulations. This became more apparent with our most recent disaster. We have had two different regions assigned to our state to administer these relief programs. With each region, the regulations are rendered differently, thus leading to the need to readdress issues that the State

felt were resolved.

In the early response activities of the flood, FEMA's Disaster Field Office (DFO) was located on the eastern edge of the state. This provided problems in communication and coordination of the Emergency Support Function (ESF) activities with FEMA. It is vitally important that the DFO be co-located with state government regardless of the location of the disaster. We feel it is important that the state be allowed to make the final determination of the site for the DFO to ensure the Emergency Support Function activities are blended with the existing state response and recovery structure.

FEMA has taken a proactive stance on the coordination of other federal agencies such as Corps of Engineers and SCS agencies to coordinate federal relief efforts. In the past we have seen very little effort made toward this coordination and find this to be of great benefit in the administration of programs. The U.S. Department of Agriculture (USDA) has been assigned by President Clinton to head up the recovery for the midwestern flooding. I feel that the USDA does not necessarily have the intra agency expertise to have full knowledge of disaster programs. FEMA should always be the lead agency in the recovery coordination process.

A review of the policies regarding the pre-positioning of sandbags and pumps should occur. To give you an example, there were instances where counties requested sandbags and/or pumps but since a flood fight was not in progress, the request was denied by the Corps of Engineers. The next day the county called again and said that the flood fight had begun. By the time the resources arrived, hours later, preventable damage had already occurred.

SUMMARY OBSERVATIONS:

* Obtaining the necessary and adequate federal assistance for the repairs of the many levees that were either destroyed or damaged is proving to be very difficult We know of at least a $23 million requirement. All of the funds have not been released, we are losing time for repairs to be completed prior to winter weather

* The federal/state/local damage assessment process was cumbersome, it needs to streamlined into a more joint cooperative and coordinated effort.

* The President adjusted the cost share requirement for the public assistance program for the flood disaster in the midwest. All of the cost share requirements should be consistent and clearly defined prior to the disaster event.

* Provide sufficient funding to federal agencies for program use and implementation (i.e. SCS funds for levees, FmHA funding of farm programs, etc.) We spend a lot of time trying to figure out how to "marry" programs together and understanding the funding source rules.

* Ensure that FEMA and its routine day to day programs, including those that flow through the states, are adequately funded. (i.e. the Emergency Management Assistance program, Iowa's requirement is well over $1 million for this program, we only receive approx. $800 thousand).

* The entire disaster assistance applications process involves a great deal of cumbersome paperwork for the applicants. Each federal agency should review their requirements.

* Ensure that Disaster Field Offices are co-located in the same city with State Government operations and reflect the State's requirements when determining location.

* Whenever possible, provide consistency and continuity of operations and interpretation of existing laws, rules and regulations.

I think the overall response and recovery efforts in Iowa went very well. The reaction of public officials at both state and local level was based on their willingness to make themselves familiar with emergency response considerations prior to the disaster. The initiatives of the State led by Governor Branstad and the Emergency Management community continue to make the recovery efforts the most effective I have witnessed during my seventeen-year career in emergency management.

I have primarily shared with you today some of the issues that states face with regard to disaster preparedness, response and recovery. Until Emergency Management becomes a priority business of the federal government, the states and their local jurisdictions will not have the capability for a completely effective recovery effort from major disasters. It is vital that FEMA have adequate funding to expand staff and resources to function properly in its role in the implementation of the federal response plan and to provide the necessary assistance to the states. Thank You.

STATEMENT OF
JIM MAKRIS, DIRECTOR
CHEMICAL EMERGENCY PREPAREDNESS AND PREVENTION OFFICE
OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT
OF THE
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
U.S. HOUSE OF REPRESENTATIVES

October 28, 1993

Mr. Chairman and members of the Committee on Public Works and Transportation, I am Jim Makris, Director of the Chemical Emergency Preparedness and Prevention Office in the Office of Solid Waste and Emergency Response at the Environmental Protection Agency (EPA). I am the emergency manager for the EPA and the Chair of the National Response Team (NRT), the interagency coordinating body comprised of fifteen Federal Departments and Agencies with primary responsibility for emergency preparedness, prevention, and response to hazardous materials. I am also National Chair of Emergency Support Functions (ESF) #10 of the Federal Response Plan.

With me is Carol Kather from EPA Region VII in Kansas City. Carol works with emergency planning and response and was the Flood Coordinator for EPA Region VII during the midwest flooding.

I come before you today to talk about EPA's mission in the Federal response to the flooding in the Midwest this past summer. I will also address coordination among Federal agencies, state and local governments, and suggestions on how disaster preparedness, response and relief efforts might continue to be improved.

I was privileged to participate in President Clinton's St. Louis "Flood Summit," and to be with Administrator Browner for a meeting with the Region VII state environmental directors in regard to the flood. I also represented EPA on a

short-term task force, Putting People First in Emergencies, led by OMB Director Leon Panetta to improve the flow of information to the President about domestic emergencies, including natural and man-made disasters. The Task Force established a system for the White House where each department and agency would have a 24 hour point-of-contact with authority to act in the event of an emergency.

Role of EPA in Federal Response

EPA's role in the midwestern flood was multifaceted: responder, facilitator, coordinator, and leader. We performed all those roles in the spirit of interagency cooperation. We worked with other federal agencies, with states, industry, environmental groups and individual citizens. In terms of other federal agencies we worked primarily with FEMA, HHS, USCG and the Army Corps of Engineers within the context and operational structure of the Federal Response Plan.

One main purpose of the National Contingency Plan (NCP), set up under the Clean Water Act and the Comprehensive Environmental Response, Compensation and Liability Act, is to ensure that the resources and expertise of the federal government would be immediately available for those relatively rare but very serious incidents that require a national or regional response. The NCP established the National Response Team, along with a Regional Response Team system that includes offices of the same federal agencies, as well as state participation. During a response, the purpose of the National Response Team and the Regional Response Teams is to support, provide guidance to, and assist the federal On-Scene Coordinator (OSC). OSC's and their local and state counterparts are the backbone of the system, responsible for ensuring quick and efficient response to oil and hazardous chemical spills and releases. During the assessment phase, the EPA Regional offices provide OSC's to work with FEMA and the states as part of the ground situation assessment teams.

Under the Federal Response Plan authorized by the Stafford Act (PL 93-228), EPA is the Primary Agency for Emergency Support Function (ESF) #10: Hazardous Materials. EPA provides and coordinates Federal support to States and local governments in response to an actual or potential discharge and/or release of hazardous materials following a catastrophic disaster. ESF #10, hazardous materials, was activated for the Midwest Floods on July 11, 1993. EPA responded to mission assignments issued by FEMA.

EPA teams in the field worked with State and local officials to identify sites in the affected States that handle hazardous materials. Sites with potential problems were given assistance and were closely monitored. The types of sites identified and monitored include facilities and sites subject to the requirements of Superfund, RCRA, and SARA Title III. In all cases EPA worked closely with State officials and provided much-needed laboratory assistance to the States for sample analysis. Simultaneously, states did their own damage assessments based on their individual state priorities.

Agency personnel conducted reconnaissance activities on the rivers to locate oil or chemical spills, and floating tanks or drums that could lead to emergencies. EPA On Scene Coordinators recovered tanks and drums, and worked with the States to develop pre-disposal staging strategies following their recovery. In Missouri alone over 15,400 containers have been recovered. EPA participated in a household hazardous waste collection program in conjunction with the States in an effort to prevent improper disposal through either conducting or providing technical assistance. Over 52,000 lbs. of material were collected and disposed of in Iowa.

In addition to EPA's primary role for hazardous materials under the Federal Response Plan, we provide support to other Emergency Support Functions, including Public Works and Engineering (ESF #3) which is coordinated by the U.S.

Army Corps of Engineers. EPA's roles include determining the suitability of water resources for human consumption; identifying potential hazardous materials impacting drinking water supplies and waste water treatment sites; assisting in locating disposal sites for debris clearance activities; providing locations and safety guidance for areas affected by hazardous materials; and ensuring that the clean-up of affected areas is accomplished.

Preparing for our role under Public Works and Engineering, the Agency compiled data on the affected water and wastewater treatment facilities in the declared States. The total number of drinking water and wastewater facilities impacted were 309 and 410 respectively.

EPA also plays a support role in Emergency Support Function #8, health and medical services. EPA's role is to provide assistance to States and local governments in response to public health and medical care needs as they relate to incidents caused by hazardous materials. The main areas of concern here were water quality, air quality, vector control (pests), pesticide and fungicide use, and other related issues.

Throughout the event, EPA ensured that technical information and support was available to the field by using its National Incident Coordination Team (NICT), comprised of senior level officials from each of the major EPA offices and Regional offices.

The National Response Team held two special meetings to discuss response operations to the midwest flooding and to coordinate activities among NRT member agencies. Extensive coordination continued throughout the response. The Regional Response Teams of the three flooded regions met jointly to ensure their member agencies were fully coordinated.

EPA regularly attended the FEMA daily briefings and the Catastrophic Disaster Response Group (CDRG) meetings. The CDRG is the national-level policy group representing all 27 Departments and Agencies having responsibilities for response activities following a catastrophic natural event. EPA also provided staff to FEMA Headquarters and participated in the FEMA satellite broadcast.

Environmental Impact and Monitoring

The Midwest floods resulted in a level of monitoring activities, involving a variety of federal, state, and local agencies, that was unprecedented for a domestic disaster. Recognizing that no system existed for coordinating these efforts, the EPA convened an interagency meeting in Kansas City, KS on July 27-28 to develop a coordination strategy. The participants recommended that media specific workgroups be formed to address monitoring issues, and that existing organizations be used to the fullest extent possible. Interagency workgroups were formed for air, water and hazardous materials, and a coordination task force was established to facilitate coordination within groups and with other organizations such as Secretary Espy's Recovery committees. The media workgroups ensured coordination among agencies in the development of workplans, consistent application for and use of various sources of funding, and data management and review. These efforts are ongoing in the recovery phase.

Surface water monitoring efforts undertaken by State agencies and the U.S. Geological Survey have generally found that concentrations of pesticides, nutrients, metals, and volatile organic compounds, while slightly elevated in some areas, are consistent with past high flow events. Flood impacts on ground water are less well understood. In some areas groundwater levels have risen so far that wells that previously had to be pumped are now free flowing and low lying areas have become flooded. Historical information on shallow groundwater was far less extensive than for surface water, and is probably no longer valid due to the

unprecedented high water levels. Monitoring of groundwater quality is being performed by the U.S. Geological Survey, and State agencies will perform additional monitoring of surface and groundwater used for public water systems using funds from the Supplemental Dire Emergency Appropriations bill.

State health departments are reporting higher than normal incidence rates for coliform contamination of private wells, but the true extent of the problem is unknown. EPA is working with the U.S. Public Health Service and other federal agencies to develop a statistically valid sampling plan that will define the extent of private well contamination in each state. FEMA has participated in the development of the sampling plan and will investigate the potential for funding the initial sampling efforts under the Stafford Act. The results of the initial sampling efforts will form the basis for any recommendations for additional groundwater monitoring, with emphasis on sources of private and public water supplies.

Superfund and hazardous waste sites have been addressed by the hazardous materials workgroup. Oversight responsibility for these sites rests within a variety of programs, with EPA On-Scene Coordinators and Remedial Project Managers providing direct oversight of many superfund sites, responsible parties addressing others under enforcement agreements, and States bearing responsibility for the remainder. Since the conditions at these sites and the extent of flood damage are highly variable, monitoring strategies have varied accordingly. As an example, in the Times Beach, Missouri area where dioxin sites have been a source of tremendous public and regulatory agency concern, the EPA and the Missouri Department of Natural Resources collaborated on an aggressive monitoring program in the early stages of the flood response to ensure that no contaminated materials had migrated off the sites. That survey involved extensive sample collection and laboratory analysis on the part of both agencies. Other sites had low potentials for contaminant migration and only minor flood impacts, and

received only visual inspections. To date, no significant releases of hazardous materials attributable to the flood have been reported, but EPA will remain vigilant in its tracking of ongoing site investigations.

EPA was invited to participate in an OMB/OEP task force on wetlands and levees, in part because of our interest in exploring alternatives to levee repairs. One alternative is the emergency wetlands reserve program which USDA established to address wetland acquisition in the Midwest. This has provided an alternative not only for those who have access to Federal funding for repairs, but also for those who do not. The Agency has been providing consultation on decisions for levee repairs. EPA continues to work with the Committee to support a coordinated federal review of overall floodplain management policies. We believe that there needs to be more flexibility on the use of these emergency funds, including funding for non-structural alternatives.

Successes

The overall government coordination during the flooding in the Midwest demonstrated many aspects of the Federal Response system that worked well. I believe the best way to ensure success within the federal response system is to utilize in crisis those relationships that we routinely maintain. These relationships, such as the longstanding alliance between the EPA and the US Coast Guard, particularly in the context of the NRT, proved invaluable in managing the retrieval of drums, cylinders, and other hazardous materials containers from the flooded rivers. Communications equipment, contract assistance, and technical advice were easily obtained using this NRT/RRT mechanism. In addition to the field experience of EPA OSC's, the working relationship they had established with the State Emergency Response personnel through the normal Superfund activities greatly contributed to the success of ESF #10.

EPA and FEMA worked well together. Administratively, the mission assignments were handled smoothly and funds were transferred quickly. Problems in this area from Hurricane Andrew were not evident for the floods.

Upon establishment of each Disaster Field Office, EPA established contact with the Local Emergency Planning Committees (LEPCs) in the flooded counties to access the Community Right-to-Know and Resource Conservation and Recovery Act data. They examined the chemical information, such as quantity and toxicity, that was available on the facilities that were impacted by the flood. By examining the data, EPA was able to narrow down the list to facilities that posed the greatest amount of risk. EPA then contacted the facilities and worked with them to minimize any damage. The structure that was established through these environmental laws proved to be an effective means of accessing pertinent information of risks to the community and maintaining mutual (fed/state/local) communication. In addition, the relationships among all stakeholders that were established as a result of the Emergency Planning and Community Right-to-Know Act immensely helped in the coordination among all levels of government.

With States, we used our well established relationships with our counterpart agencies (natural resources/environmental quality) to help us determine the priority areas of needed support. State Directors of Environmental Quality and Natural Resources were essential in providing information. Our regions effectively assisted states because of the existing relationships and mechanisms to develop action plans.

There must be consistent interpretation of the application of the Stafford Act/44 CFR - without this, interagency cooperation and state relationships will be damaged.

CONCLUSIONS

EPA is committed to assisting State and local communities in the long term recovery from the flood. Administrator Browner created an EPA Flood Policy Committee composed of key Headquarters and Regional senior policymakers to ensure full coordination of restoration and long term recovery issues, examine enhancements to EPA's response to this flood, and review our flood supplemental budget implementation.

For the first time in a major disaster, EPA was allocated $33.9 million dollars under the Supplemental Dire Emergency Appropriations Act. Ninety percent of that money is being allocated to Regions and States for dealing with issues associated with waste, air, water and pesticides through grants, contracts and technical assistance. These monies will be used for a variety of environmental recovery/restoration efforts at the State level.

I look forward to answering any of your questions. Thank you.

NATIONAL
ASSOCIATION
of
COUNTIES

440 First St. NW, Washington, DC 20001
202/393-6226

STATEMENT OF

SUPERVISOR FRED L. MATHISON
STORY COUNTY, IOWA

ON BEHALF OF

THE NATIONAL ASSOCIATION OF COUNTIES
AND
IOWA STATE ASSOCIATION OF COUNTIES

ON

THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S PERFORMANCE IN RESPONSE TO THE 1993 FLOODING IN IOWA

BEFORE

THE UNITED STATES HOUSE OF REPRESENTATIVES
SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT OF THE HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

OCTOBER 28, 1993
WASHINGTON, D. C.

REPORT TO THE HOUSE SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHTS
Hearing on October 28, 1993

SUMMARY

The floods of 1993 were pre-empted by unusual amounts of moisture in the fall of 1992. The winter of 1992 brought considerable snow and with a late spring, the thawing conditions compounded by excessive rains increased streams and rivers to capacity levels. The amount of rain received in Story County was compounded by large rainfall to the north. Damage estimates are difficult due to the fact that not all reports have been completed and final tabulations made.

The following figures are from just Story County:

City of Ames -	Public Assistance -	$ 854,000
	Buy-out grants requested:	
	South Riverside	1,650,000
	Kings Mobile Homes	850,000
		$3,354,000
Iowa State University		$7,000,000
City of Nevada -	Public Assistance	$ 150,000
Story County		
	Human Services Center	$ 368,000
	Sheriff	5,576
	Conservation	45,000
	Secondary Roads	1,000,000
		$1,418,576

These figures are approximate and do not include private non-profits, commercial and some residential.

Estimates of damages from sixty-five counties compiled by the Iowa State Association of Counties for items ranging from culverts, bridges, and roads to equipment, buildings, and levees totalled $35,524,506.

- DESCRIPTION OF STORY COUNTY'S DISASTER PREPARATION PROGRAM AND SPECIFIC MEASURES TAKEN DURING THE FLOOD

Planning with the City of Ames, Story County Emergency Management, the Story County Sheriff, and Board of Supervisors has taken place to insure a coordinated effort when a disaster such as the floods of 1993 occur. During the flood, members of the above named entities met at the flood site and discussed and coordinated strategies for flood updates, evacuation procedures and other flood related concerns.

- EFFECTIVENESS OF FEMA

Following the flood and prior to Story County being declared a disaster, FEMA met with representatives from Story County, cities in Story County and nearby cities and counties.

The information provided at this meeting was excellent and prepared counties and cities so they would be ready when and if the declaration occurred. This pre-declaration meeting was well attended and many questions were answered and concerns allayed.

I have contacted approximately thirty counties for their input and the following are some of the comments I received:

- o Very, very supportive and FEMA essentially concurred with our DSRs and approved everything requested. They even sent six site inspectors. City of Ames

- o General impression is that FEMA has been very cooperative, competent and helpful. We have nothing but good things to say about them. Iowa State University

- o Very impressed with the computer system and modem FEMA has provided to all Public Health Departments in the state. We can now communicate directly with other counties and share valuable information. County Public Health Director

- o Working with the FEMA representative was a very positive experience. City of Nevada

- o There does not seem to be any criteria in how grant money is being distributed. Some neighbors received $6,000, others less, some, right next door, nothing. Some have no idea why they were receiving anything. Greene County

- o The two inspectors were congenial but tough. Always tougher when returned on Monday from the weekend. Money seems to be slow in being disbursed. Crawford County

- o The FEMA representative was very fair and it was a positive experience. Winnebago County

I WOULD NOW LIKE TO REPORT ON SOME OF STORY COUNTY'S EXPERIENCES WITH FEMA

On July 30, 1993, the FEMA Inspector had an introductory meeting with the Board of Supervisors, County Engineer, Sheriff, Conservation Director, and Property Manager. The meeting was cordial but an attitude developed when we mentioned that the County Human Services Building at 713 South Duff, Ames, Iowa was not insured and that we were retaining a consulting firm to assist with our DSRs and Hazard Mitigation.

On August 4, 1993, the inspector met with our Property Manager at the building and was leaving as he arrived. The inspector indicated that there was no reason to go into the building because it was in the flood plain and so would be subject to a $200,000 deductible on the building and a $200,000 deductible on the contents. Also, there would not be funding available, for relocation costs of the agencies which were located in the building. After some encouragement, the inspector did enter the building and viewed the damage that had occurred. Some of his comments were, "you don't have to replace the electrical outlets, just clean them up and use them. The water did not hurt the conduit so blow the water out and reuse them. You can cut the drywall off at the water line and just put new drywall up to there. As to equipment, such as the elevator, boilers, electrical panels and air conditioning system, these items would be replaced with used equipment. The wood studs in the wall would dry out on their own and even though untreated material, this would not be a problem."

The inspector reported damages of $117,000 and since, according to him, the building is in the flood plain, would only be eligible for $750 plus $750 on the contents for a total FEMA payment of $1,500. In fact, as verified by the City of Ames Flood Insurance Rate Map issued by the National Flood Insurance Program, the building is above the flood plain.

We had a contractor examine the building and he estimated the cost to repair the building would be $270,000 plus carpeting at $22,000. With the additional cost for electrical, mechanical, elevator, and boilers the total cost of repair was $369,000. There was an additional $39,939.88 damage to the contents.

I am serving on the Iowa Flood Recovery Coordinating Team and brought this to the Team's attention. The office of the Iowa Emergency Management (IEM) immediately became involved and through their efforts, our DSR was returned from the FEMA office in Davenport to be processed in Des Moines. Through IEM's efforts, a reinspection of the building occurred on September 15, 1993. The second inspector was appalled that the initial inspector could submit a DSR for the damages he perceived to have occurred.

The second inspector, after an extensive examination of the building, submitted a damage report on the building of $243,300.82. The building has been appraised by the Ames City Assessor at a pre-flood value of $275,000 to $304,000. The damage is well in excess of 50% of the building value and in fact is approximately 80%. As of October 26, 1993, no one other than IEM, contacted the county about mitigation and relocation to another site.

The Secondary Roads, Sheriff, and Conservation DSRs were handled efficiently and very few differences occurred.

The flood damage to our county building and the relocation of six agencies was very traumatic and difficult but was handled by our staff in a very efficient and responsive manner.

Dealing with this type situation is difficult enough on its own and we should not have been subjected to an inspector whose attitude, responsiveness and knowledge is inadequate in the building trades field.

Also, in meetings with FEMA representatives, we feel that FEMA looked at the county as an adversary and that we were attempting to receive funding for which we were not eligible. The relationship should not be adversarial but should be one of a working partner cooperating with governmental entities to provide a fair and equitable solution to a very difficult situation.

- SUGGESTIONS

o Continue to provide information on the application process at an early date. In the Story County area, that was prior to the actual disaster declaration and prepared us for quick response and completion of DSRs.

o Do not move field offices and personnel around such as from Davenport to Des Moines then to another Des Moines location. I realize this is sometimes unavoidable, but make sure every entity is informed of new addresses and phone numbers.

o Send inspectors that are experienced in the area to be inspected- Structural engineers to examine buildings, civil engineers for roads and bridges, individuals with drainage knowledge to look at drainage districts, etc.

o Inspectors need to have more training on the manual and have better knowledge of what is eligible and what is not.

o Train inspectors and district personnel that we are partners, not adversaries.

- FEMA'S HAZARD MITIGATION GRANT PROGRAM

FEMA has been reluctant to discuss Hazard Mitigation for the Story County Human Services building in Ames, Iowa.

On September 7, 1993, we forwarded to Albert L. Schultz, FEMA Region 7 Director, Kansas City, the Story County Human Services Center first floor elevation, base flood elevation map, letter of request for map amendment, and warranty deed. As of October 26, 1993, we have had no response. Hazard Mitigation is available, why have we not been contacted to confirm our eligibility?

The information I received from other counties in regards to FEMA's response to the flood disaster has been very positive. Story County's experience with the Human Services Center seems to be an unusual occurrence but very frustrating for us.

There is no question that FEMA's response compared to past incidents in most counties has vastly improved.

Respectfully submitted,

Fred L. Mathison
Story County Board of Supervisors
Story County Court House
900 6th Street
Nevada, IA 50201-2087

STATEMENT OF JOHN PLUNK

Mr. Chairman, Members of this committee, Ladies and Gentleman. My name is John Plunk, Acting Director of the Illinois Emergency Management Agency. I am here today to provide testimony and insight on the midwest spring and summer flooding and its effects on the citizens of the State of Illinois and the response by the Federal Emergency Management Agency.

Flooding in Illinois actually began in mid-March on the Illinois and Mississippi rivers. Seven counties were given State Disaster Area designation by Governor Edgar and the Illinois Emergency Management Agency coordinated flood fighting efforts by the Illinois Departments of Transportation and Conservation. Costs to the State were considerable and the Drainage and Levee Districts along the affected areas quickly exhausted their resources.

The problems began to show signs of improvement in late April and early May and it was beleived that the worst was behind us.

In early June, a series of storms dumped torrential rain across northern Illinois and Cook County causing localized flash flooding in many cities including Chicago. From that point on the storms were relentless, rolling through the midwest in waves.

On July 4th, I was in the Jersey County town of Grafton, a community of 1400 people which lies at the point were the Illinois River joins the Mississippi. The river was projected to crest at 31 feet on July the 6th. I assured Mayor Narin that I would return to Grafton on the sixth when the crest passed. I then departed for Quincy, Illinois, 108 miles away. I didn't get back to Grafton until late July, but I was there on August the 6th when the river finally crested at a record 39 feet, six feet above the previous high water mark, and one month later than the predicted crest.

That typifies the problems we had during the months of July and August. The disaster had no foreseable end. Every day brought more rain, higher crests and higher costs.

In Illinois alone, 884,000 acres of farmland were flooded, destroying $425 million worth of corn, soybeans and other crops. The flood impacted some 82 communities. Of these, 59 were actually flooded or sustained serious damage. A number of Illinois residents have lost their homes and many more have lost the use of their homes. Over 15,000 applications have been made to FEMA for Housing Assistance. Still others have been forced to accept unemployment when their employers suspended work due to the flood or the commute over lengthy detours became too cumbersome and expensive.

Over 22,600 households have applied for disaster assistance through October 21st. Nearly 10,000 have sought assistance from the Crisis Counseling programs. 9,200 applications have been made for the Individual and Family Grant program.

The flood closed nearly 300 miles of roads, 12 bridges on the state highway system and all four ferries crossing the Illinois and Mississippi rivers. Approximately 64 miles of state highways are still closed. Another 900 miles of local roads and streets were inundated with flood waters. Many of them are still not passable.

At one point in July, the approach at the Joe Page Bridge which connects Jersey County with Calhoun County across the Illinois River was under 16 feet of water. That road remains closed today isolating the town of Hardin. Portions of the Central Illinois expressway in Pike and Adams county were under 12 feet of water. A break in the Len Small levee near Miller City in Alexander County temporarily formed a new channel for the Mississippi River eroding some of the land to a depth of 80 feet.

Responding to the record breaking flood has placed extraordinary demands on government agencies at all levels, including the Illinois Emergency Management Agency. The Emergency Operations Center was open for 45 consecutive days with 3 Forward Command Posts along the swollen river serving to provide coordination of state and federal assets.

The Illinois Department of Conservation has identified 23 sites under their jurisdiction that suffered over $4.1 million in damages and clean-up costs. The Illinois Department of Historic Preservation reported losses of $369,000 at three state historic sites.

The Illinois National Guard spent over 1.5 million man-hours on State Active Duty sandbagging, assisting with evacuation, security and aeromedical evacuation missions. Guardsmen remain on duty today in several areas of the State.

The Illinois Department of Public Health and the Illinois Environmental Protection Agency distributed approximately 4.2 million gallons of potable water in a four-week period to persons and special facilities (hospitals and nursing homes) in the Alton/Madison county area.

The Illinois Department of Corrections supplied nearly 13,000 inmate-days for sandbagging and another 4,000 for clean-up operations. In all, over 1400 boot camp inmates were utilized in flood fighting operations.

The Illinois Department of Transportation put an army of trucks and earth moving equipment along the entire western length of the state, building roads out of deer paths, building levees where none had existed and raising roadway levels in a race with the rising waters.

The State of Illinois' disaster preparedness is the sum of the preparation of its 102 county programs (each with its unique mixture of strengths and weaknesses) and the coordination of State agencies and assets as outlined in the State Emergency Operations plan. The IEOP outlines the responsibilities of those state agencies that have personnel and other assets that can be used in disaster response or recovery operations. It was developed in cooperation with substantial input from these agencies. To reinforce this cooperation, regular meetings of the representatives of these agencies are held.

The Federal Emergency Management Agency responded quickly and effectively to Illinois' immediate response needs; their implementation of the Federal Response Plan worked rather well, and I might add, better than we had expected. They coordinated the multitude of federal agencies to get Illinois what it needed when it needed it.

Unfortunately, there is no similar effort for long-term recovery; the Stafford Act does not address the concerns we in Illinois have for rebuilding communities and re-establishing normalcy for the thousands of persons displaced and otherwise impacted by the Flood of '93.

In that sense, Illinois and other states have shown leadership for the federal family by their coordination of state and federal programs for recovery. Governor Edgar established a Recovery Task Force in August, before the flood crests had even completely receded. This Task Force continues to meet on a weekly basis; ensuring that no resource or problem is overlooked and that services can be provided to the people and communities affected by this disaster.

The FEMA Hazard Mitigation Program is being utilized at this time by the State of Illinois as the IEMA and other State agencies along with FEMA and their respective counterparts implement the long-range recovery following the Flood.

Because of the magnitude of the 1993 flood disaster and the number of individuals and communities heavily impacted in the 39 counties in Illinois declared major disaster areas by the President, it has become apparent that the overall desire of both individuals and entire communities is to relocate off the floodplain.

The State of Illinois has always supported this desire and has taken advantage of the mitigation measures provided by the National Flood Insurance Program's (NFIP) Section 1362 relocation/buyouts that have provided for the removal of 116 structures in 17 jurisdictions since 1981. In addition, the State has its own acquisition program administered under the Department of Transportation-Division of Water Resources which has successfully removed 99 structures from the floodplain in six jurisdictions with another 50 to 80 structures pending buyout at this time. In more than a decade, we have only been able to reduce the number of structures in the floodplain by 215. Now we are faced with more than sixty communities in flood-ravaged areas who have residents who are willing to move, and the potential for twenty times the number of acquisitions and relocations provided thus far.

In the past, convincing individuals to relocate off the floodplain has been an arduous hard-sell proposition. However, I believe it is the most cost-effective means that we have to prevent the reoccurrence of future damages and the continuing outlay of Federal, State and local dollars in areas that will assuredly be flooded again;

The sheer immensity of this past summer's devastation to both individuals and entire communities has provided a new willingness to "get off the floodplain". The potential to buyout and relocate those individuals on the floodplain has never been greater, but quite frankly, our largest concern is that we will not have enough money to assist all those interested flood survivors whose lives have been devastated by this Great Flood.

In addition to the FEMA Hazard Mitigation Grant Program matching funds (Section 404 of the Stafford Act) based on 10 percent of the estimated aggregate amounts of grants made for permanent restorative work under the Public Assistance (Section 406), funds from other agencies such as the Economic Development Administration, Farmers' Home Administration and H-U-D will be utilized to complement the Section 404 funds which will be grossly inadequate in terms of the amounts needed to assist communities to implement mitigation measures.

At the present time, the Recovery/Mitigation Advisory Group made up of Federal and State agency representatives are meeting in Springfield to provide a "clearinghouse" for mitigation applications so that the various funding sources can be "packaged" in such a way that a community's application will use the appropriate funds for assisting families in buyouts and relocations as well as for other aspects of mitigation such as structural hazard control, retrofitting, warning systems, and community relocation and economic development.

This is a very complex endeavor that the State of Illinois and the Federal government are taking, but it is in the interest of mitigation that we have put together a mitigation team in order to go forward in a financially-efficient manner. While I realize that many individuals are asking "where is the money?", I believe that a more deliberate, methodical approach is far better than getting money out quickly, but without direction as to whether the correct funding source was used.

The need for coordination between project applicants and state and federal agencies that are sources of funding has never been more evident.

The Advisory Group will address five types of mitigation applications organized into the following subgroups: Housing, Agriculture, Infrastructure, Flood Control, and Business Recovery/Retention. This group will review projects, provide guidance and technical assistance, make recommendations back to the applicant (community) through the regional planning council and, hopefully, get the most "bang for the buck" regarding mitigation funds, regardless of the source.

On the regional level, the State has tasked the multi-county Regional Planning Councils (RPC) with the mitigation planning and application process. Funds have been provided by the Economic Development Administration, H-U-D, and FEMA for the RPC to hire additional staff for this most overwhelming mitigation effort.

While we intend to use the FEMA Hazard Mitigation Grant Program to the greatest extent possible in filling some of the gaps left by other funding sources, I realize that the 10 percent figure generated by the Public Assistance Program will be very minute. Mitigation can be the answer to alleviating future misery for those flood survivors at the time of the nextflood, and it can be the answer to lessening the amount of monies extended by the Federal government the next time the midwest rivers go on the rampage.

In conclusion, I would like to acknowledge the leadership and assistance given to the State of Illinois and to me by FEMA Director James L. Witt. Although for the most part we have always enjoyed a good relationship with FEMA, the cooperation during this disaster was extraordinary.

Director Witt's personal involvement on several issues was very helpful to me and I would like to commend him on a job well done.

Much criticism has been leveled at FEMA in recent years. In my opinion, much of that criticism was undeserved and I would urge Congress to allow Director Witt wide latitude to correct the problems which do exist. Director Witt is the first FEMA Director with emergency management experience and we believe he is on the right course.

Thank you for allowing me the opportunity to share my remarks with you.

NATIONAL
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of
COUNTIES

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STATEMENT OF

COUNTY EXECUTIVE EUGENE C. SCHWENDEMANN
ST. CHARLES COUNTY, MISSOURI

ON BEHALF OF

THE NATIONAL ASSOCIATION OF COUNTIES

ON

THE FEDERAL EFFORT IN RESPONSE TO
THE 1993 FLOODING IN
ST. CHARLES COUNTY, MISSOURI

BEFORE

THE UNITED STATES HOUSE OF REPRESENTATIVES
SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT
OF THE HOUSE COMMITTEE
ON PUBLIC WORKS AND TRANSPORTATION

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WASHINGTON, D. C.

Before the
United States House of Representatives

Public Works and Transportation Committee
Subcommittee on Investigations and Oversight

I. INTRODUCTIONS:

Mr. Chairman, Committee members, Committee staff, my name is Eugene Schwendemann, County Executive of St. Charles County, Missouri. I am here today representing the National Association of Counties and St. Charles County Missouri. I have been Chief Executive Officer for 3 years, with many years, with many years experience in County Government. I am a member of the National Association of Counties, Missouri Association of Counties, Three Rivers Confluence Commission, East West Gateway Coordinating Council and the Regional Commerce Growth Association, in east central Missouri.

With me today, is Gary Schuchardt, Director of the St. Charles County Emergency Management Agency, who coordinated all the response and recovery efforts, during the 1993 Flood Disasters. He has been EMA Director over eight years, with fifteen years emergency management experience and FEMA training. He is chairperson for the St. Charles County Local Emergency Planning Committee, a member of the Missouri Emergency Preparedness Association, National Coordinating Council of Emergency Management, American Radio Relay League and Amateur Radio Emergency Service.

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Mr. Chairman, it is an honor and privilege to appear before this committee to testify regarding the performance of various federal and state agencies, during the 1993 Flood Disaster.

II. LOCAL JURISDICTION DESCRIPTION:

St. Charles County, Missouri, is the fastest growing county in the State of Missouri, and is in the top ten fastest growing counties in the country. Current population exceeds 230,000. By year 2000, the population is expected to be 260,000. Growth includes a

dramatic increase in commerce, business and industry. In 1992 new housing construction reached 2600 starts, and it is expected to reach 2850 in 1993. Certain areas of the County remains dedicated to agriculture, with many farms current located within the flood plains. St. Charles County is known for it's historical sites, from the Daniel Boone Home and German wineries of Augusta to the site of the first State Capitol and Lewis & Clark Expedition, in St. Charles City. The County has a wealth of tourist, camping and recreational areas. The Mississippi and Missouri Rivers provide an ideal location for recreational opportunities, with marinas and river boats.

Our County is bordered on two of three sides by major rivers, namely the Missouri and Mississippi. The Illinois River empties into the Mississippi River, at our northern border near Grafton, Illinois. Further, the Missouri and Mississippi Rivers converge at the northeastern tip of St. Charles County. Over 43% of the County is located within the flood plains, about 161,000 acres. There are various historical areas in flood plains, including: Portage Des Sioux, West Alton, Orchard Farm, Defiance and lower areas of Augusta and St. Charles.

In St. Charles County, public levees along the Missouri and Mississippi River are managed by local levee districts. These levees are approved by the U. S. Army Corps of Engineers. However, the levees provide only limited protection to a 20 Year Flood level. For many years, we have requested approvals from the Corps of Engineers and FEMA to raise these levees to insure greater protection. This mitigation opportunity we will discuss in our recommendations.

III. SUMMARY OF EVENTS:

During 1993, St. Charles County was impacted by three floods, as well as severe storms, tornados and flash flooding. Events cause major damages to private and public properties, and serious threats to lives. On April 12, 1993, our County Emergency Operations Center was activated on a 24-hour basis to fight the first flood, which lasted well into May. This flood was compared to a 20 Year Flood involving only the Mississippi River. The response lasted many weeks. No lives were lost directly related to the rising flood waters. Injuries were minimal. However, recovery was stifled by an extremely slow falling river.

Our victims had not even been able to recover, when the Mississippi and Missouri Rivers rose again. The County Emergency Operations Center again activated, on June 25, 1993. This time County EMA geared up to fight one of the most devastating floods of history. Warnings and Evacuation were issued well in advance to save lives. It was like no other disaster that ever impacted the County. On July 31, 1993, the County was also hit by a major thunderstorm, which produced 70 mph wind and tornado damages to structures

already surrounded or isolated by flood waters. By August 2, 1993, the Missouri, Mississippi and Illinois Rivers reached historic 500 Year Flood levels. EMA coordinated over 14,000 volunteer sandbaggers and laid 2.1 million sandbags. It was a dramatic effort to save lives and properties. Fortunately, no lives were lost directly related to rising flood waters.

On September 15, 1993, the Mississippi and Missouri Rivers arose again, even before they had fully receded from the August 2, 1993 levels. Again, flooding caused mental agony to our homeless flood survivors, who are anxious to get their lives back together. And, the flooding will continue, until the primary public levees are repaired! The historic August 2 river stages reduced our levee protection factor from 36.0 feet pre-flood to only 26.5 feet, along the Missouri River in St. Charles.

The 1993 Flood Disaster caused many other emergency situations. There were problems associated with transport of equipment and relief supplies to isolated communities. Power outages impacted populated areas that were not flooded. There were numerous floating propane tanks, downed power lines and other hazards. High current situations between the Missouri and Mississippi River severely damaged railroads that supplied coal to our local Power Plant. The same currents suspended underground pipelines that transport hazardous materials. There were numerous emergencies involving telephone, water and sewage treatment facilities. 9-1-1 emergency response into flooded areas was a nightmare, since all access roads were flooded.

The 1993 Flood Disaster impacted over 15,000 people, 500 businesses and 130,000 acres of farm land. Damages to private and public properties were enormous. A preliminary count of overall structures impacted is 3,800, which are valued at $55 million (pre-flood appraised fair market value). 1,700 structures were either destroyed or substantially damaged (over 50% damaged). Of the 1,700 structures only approximately 300 were mobile homes. Condemned or destroyed structures are valued at $20 million. Overall disaster costs will be enormous to both the private and public sectors. Losses to business and agricultural produces are unrecoverable. St. Charles County suffered over $23 million in agriculture losses. Major damages have occurred to homes, businesses, farms, libraries, airports, water and sewer treatment plants, fire houses, roads and public utilities.

The Federal Emergency Management Agency last week reported that 3,842 St. Charles County residents had filed applications for assistance, the highest number of any county in Missouri seeking disaster aid. Further, the County has 2,521 eligible residents applying for temporary housing assistance, which is more than any of the other 101 Missouri counties.The long term housing problems will continue!

In St. Charles County, the Disaster Recovery will take well over two years, at great expense to the private and public sectors.

IV. LOCAL DISASTER PREPAREDNESS PROGRAM:

St. Charles County EMA must be commended for all the advanced disaster preparedness and planning efforts that have been accomplished over the last eight years. This includes all the training exercises that have promoted teamwork response of governments, departments, agencies and organizations. We have a very modern Emergency Operation Center, with well-planned interagency communication and emergency information systems. Mr. Schuchardt, his professional staff and volunteers were outstanding in their ability to coordinate emergency response and recovery efforts through an enduring and complex disaster.

All government departments, emergency agencies and organizations pulled together to save lives and property. Cities that were not directly affected by the flood provided mutual aid response. Businesses, industries and charitable organizations offered tremendous assistance to the emergency response and recovery efforts. The American Red Cross, Salvation Army and other organizations continue to provide relief assistance to our flood victims. We commend all local governments, agencies and organizations for outstanding support to disaster response and recovery!

V. EFFECTIVENESS OF FEDERAL RESPONSE:

A. UNITED STATES COAST GUARD

From the time the rivers began to rise, the United States Coast Guard began coordinating directly with St. Charles County EMA, in support of emergency response. USCG liaison was established at the County Emergency Operations Center to coordinated rescue teams. USCG directly responded to a number of evacuations, rescues and reconnaissance missions to confirm levee breaks, propane tank and pipeline safety concerns. They coordinated in a teamwork manner with other rescue agencies and organizations. USCG must be commended for their outstanding response and performance, during the 1993 Flood Disaster!

B. DEPARTMENT OF TRANSPORTATION
OFFICE OF PIPELINE SAFETY

The Department of Transportation, Office of Pipeline Safety, was well represented, at the County Emergency Operations Center. They coordinated with the various underground pipeline companies to insure coordinated response to potential pipeline suspensions or breaks. They provided important technical information concerning location of lines, valves and markers. We highly commend the

Office of Pipeline Safety for their outstanding coordination and support!

C. UNITED STATES ARMY CORP OF ENGINEERS:

The United States Army Corps of Engineers was very responsive to the County Emergency Operation Center efforts. This included supplying thousands of sandbags to protect lives and property. They continued to update County EMA regarding river stages and forecast deviations. The Corps provided technical information regarding worse case flood inundation patterns. Corps liaisons routinely visited the County Emergency Operations Center to offer assistance.

During emergency response, we had major problems with errors associated with the Telemark River Gauges, in particular the one located in St. Charles on the Missouri River. As the rivers rose and currents increased, the Telemark River Gauge was as much as 2.1 feet lower than the historic staff or Corps of Engineers wire weight gages. We have been advised that this is not an uncommon situation involving Telemark Gauges along the Missouri and Mississippi Rivers. The Regional National Weather Service, in Kansas City, continued to forecast Missouri River crests based upon the Telemark Gauge and rain fall. If St. Charles County EMA had not recognized the error, a 2.1 foot difference would have caused serious problems. Forecast accuracy is vital to population protection, early warning and evacuation efforts.

D. FEDERAL EMERGENCY MANAGEMENT AGENCY:

The Federal Emergency Management Agency really did not enter the emergency response phase. Their role in Emergency Management seems to be primarily involved with recovery and relief, after the response. There are inconsistencies between the FEMA Hazard/Mitigation and Disaster Assistance Programs (DAP). Many of the DAP programs are not very user friendly to victims nor local governments. Most programs seem to have been designed at the federal level, with no local experience or input.

1. Response Phase - FEMA is not really visible, during the Response Phase of a major federally declared disaster that was expected to impact numerous states and counties, in the midwest.

2. Recovery Phase - FEMA was very visible, but a number of problems developed related to the following:

a) Local Governments and their EMA agencies are not considered "Participating Agencies" to share vital disaster recovery information:

* Duplication of Benefits List (DOB) were not shared with local governments

- Accurate Listings of National Flood Insurance Programs (NFIP) were difficult to obtain

- Timely & Accurate Lists of Claim Information are not available to local governments

- Mailing Addresses of Dislocated Disaster Victims were denied to local governments

3. Hazard/Mitigation and Disaster Assistance Programs (DAP) are inconsistent, in that they send mixed and confusing messages. We talk about wanting to discourage people from moving into the flood prone areas or after flooding occurs turning the land back to its natural habitat. However, the Federal Government is quick to respond in handing out monies to assist those affected in order that they may be able to rebuild in the flood plain. Buyout proposals leave more questions and take too long in becoming a reality.... If it becomes reality at all!

The Federal Government has asked the County Government to research how many residents would be interested in a buyout, then asks the residents to wait up to eighteen months before they can receive monies and get their lives back to normal. What are they suppose to do in the mean time? Their houses are condemned, they are in temporary housing or living from one family member to the next, there is no normalcy to their lives nor their children's lives. Do they buy another house waiting and hoping that the buyout monies come through, can they afford to buy without the buyout monies.

We have the interest in the county by those wanting to be bought out, but the question still remains what are they suppose to do in the interim. If the federal government is serious about a buyout program then why can we not make the monies available immediately. This would also allow families to have a sense of security in being in a home they can call home.

VI. EFFECTIVENESS OF STATE RESPONSE:

A. MISSOURI STATE WATER PATROL

The Missouri State Water Patrol was extremely responsive to the Flood Disaster of 1993. In particular, this agency provided law enforcement and emergency response support by boat into flood impacted areas and along the rivers. Their presents minimized looting potential in homes and marinas. They provided water transport of emergency supplies into isolated communities. They provided emergency rescue and evacuation support by boat into areas that were extremely hard to reach. They coordinated their activities, with County EMA, Sheriff's Department, United States Coast Guard and volunteer water rescue organizations.

B. MISSOURI NATIONAL GUARD

The Missouri National Guard was critical to our emergency response efforts. They provided resources that were not normally available to local jurisdictions. This included specialized equipment and trained personnel that were not otherwise commercially available to support emergency tactical operations.

1. Reconnaissance Support to Emergency Operations - Helicopter
2. Military police to supplement perimeter security needs
3. Military vehicles that could drive through 5 foot water depths
4. Military rafting operations to/from isolated communities
5. Military cargo vehicles to transport personnel, equipment & supplies into flooded areas;
6. Military cargo vehicles to support sandbagging operations

The Missouri National Guard was outstanding, during Disaster Response and we commend them for their support. However, many counties needed additional assistance, during Disaster Recovery. FEMA did not federalize the National Guard, during the Flood Disaster; this may have made a difference in availability of Military Support, during the Disaster Recovery.

C. MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT

The Missouri Highway Department coordinated very closely with the County EMA and County Highway Departments, during disaster during the disaster response and recovery. They kept us informed regarding roads closed by flood waters, as well as responded to request to road closing signs, traffic redirection and other hazards. They worked closely with the County Highway Department to provide alternate detours and emergency patching of damaged roads. We complement their outstanding support!

D. STATE EMERGENCY MANAGEMENT AGENCY

The Missouri State Emergency Management Agency seemed to be short handed, in that a SEMA Liaison did not remain at the County Emergency Operations Center, during the Response Phase. SEMA representatives assigned to the jurisdiction, during a major disaster are vital to coordination efforts between Local, State and Federal agencies.

VII. SUGGESTIONS - LOCAL, STATE AND FEDERAL

A. FEMA HAZARD/MITIGATION PROGRAM:
FLOOD MITIGATION - LONG TERM

In response to the flooding, which occurred in the spring and summer of 1993, St. Charles County has submitted a Section 1362 Grant application to FEMA. This grant is they buyout program for those structures damaged in the flood. Currently 75 structures

have been identified as wanting to be part of the 1362 program. This number is growing rapidly since many more structures qualify for this program. The current estimated cost of the project is $3.3 million minus the amount payed by the insurance companies, with the County contributing $150,000, for demolition and removal of structures.

St. Charles County firmly believes that the level of destruction and the large number of damaged structures, in the County, make it's Section 1362 application a strong one. However, one major draw back exists. The limited amount of FEMA Flood Mitigation Funding available - ONLY $4 MILLION FOR THE ENTIRE COUNTRY, FISCAL YEAR 1993 -severely limits the number of communities FEMA is able to fund. The St. Charles County application alone would use nearly two-thirds of the available funding. With our numbers expected to grow, the amount of money allocated to this program defiantly needs to increase.

The Floods of 1993 have highlighted the need to increase funding for Long Term Flood Hazard Mitigation Programs, such as Section 1362. These programs would have a powerful impact on reducing costs to local, state and federal agencies by decreasing the number of structures vulnerable to flooding. FEWER DOLLARS REQUIRED FOR EMERGENCY DISASTER RELIEF AND FLOOD INSURANCE! AN INCREASE IN FUNDING IS NEEDED FOR NOT ONLY PURCHASE AND RELOCATION, BUT ALSO FOR FLOOD PROOFING AND EDUCATION. This will allow people the opportunity to move and have a better quality of life. Use of funds in this way would enable communities to have a LONG-TERM PERMANENT EFFECT ON REDUCING HAZARDS IN THE FLOOD PLAINS!

B. RIVER GAUGE MITIGATION:
NATIONAL WEATHER SERVICE
U. S. ARMY CORPS OF ENGINEERS
UNITED STATES GEOLOGICAL SURVEY

The serious river gauge problems must be mitigated to provide improved stage reporting and forecasting, along the Missouri River. Telemark River Gauges have been proven to provide inconsistent and inaccurate river stage data. They fluctuate dramatically with river currents. Accurate river stage data is vital to the accuracy of river forecasting. Early detection of potential flooding is vital to local EMA, who are involved with disaster response, population protection, warning and evacuation. We urge the above three agencies to jointly work toward improving the river stage gauges, along the Missouri and Mississippi Rivers.

Further, we are requesting that additional River Stage Gauges be installed at the following vital locations, along the Missouri River. It is very important to St. Charles and Franklin Counties, as well as the communities of St. Charles, Augusta, Defiance and Washington to have accurate river stage and forecast information for these locations on the Missouri River:

1. Gasconade - current stage is routinely estimated

2. Washington - no stage or forecast information

C. MITIGATION-IMPROVED OVERALL LEVEE PROTECTION

The U. S. Army Corps of Engineers has been working very closely with the local levee districts and St. Charles County EMA to implement emergency repairs to existing public levees. This is vital to allow St. Charles County to recover from the 1993 Flood Disaster.

However , we need a combined effort on all parts to look at the overall view of the levee system in the Upper Mississippi River Basin. This is needed for a better flood plain management system. There should be Local, State and Federal input on the levee system.

D. MITIGATION-RAISING OF MAJOR STATE HIGHWAYS

In St. Charles County, there are a number of major State Highways that become flooded and impassible, during a major flood. These include: Highways 94, 67 and 79.
Highway 94 is vital to emergency response efforts, as well as minimizing isolation of flood population areas. When Highway 94 becomes flooded, the entire northern portion of our County, including Portage Des Sioux and West Alton become isolated. Emergency 9-1-1 response into these areas becomes extensively delayed. Lives can be lost!

CLOSING THOUGHTS

The most important lesson to be learned from the Great Flood of '93, is that we need to spend more money towards preventing the flood. We always seem to allocate money towards fixing the problem back to the way it was. We need to put more towards making the problem go away. We should through less money at keeping the status quo and invest more money towards a viable solution.

Mr. Chairman, Committee members, Committee staff, thank you very much for your time and Gary Schuchardt and I will be happy to answer any questions the Subcommittee may have.

STATEMENT OF RODNEY E. SLATER
ADMINISTRATOR

FEDERAL HIGHWAY ADMINISTRATION
U.S. DEPARTMENT OF TRANSPORTATION

BEFORE THE
HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE
SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT
OCTOBER 28, 1993

HEARING ON FEDERAL RESPONSE TO MIDWEST FLOODING DISASTER

Mr. Chairman, Members of the Subcommittee, I am pleased to be here today to review with you the Department of Transportation's response to the recent floods in the Midwest and the role we played in helping to restore flood-damaged transportation systems, including railroads, navigable waterways, and highways, the area I was most personally involved with. It is my pleasure to introduce to you a couple of my partners in the Department's flood recovery activities, Rear Admiral William J. Ecker of the U.S. Coast Guard and Ms. Rose McMurray, Acting Administrator of the Research and Special Programs Administration (RSPA) and head of the Department's emergency preparedness program. I am submitting for the record Rear Admiral Ecker's statement detailing the extensive and heroic efforts of the U. S. Coast Guard in responding to the flood.

The flood waters are receding now but that does not mean that the work of the Federal transportation agencies is over, so this hearing is very timely. It is being predicted by some that 1994 may well be another year with excessive rainfall. If so, this could be disastrous for the areas in the Midwest where levees were breached, as well as other flood prone areas in the United States. The American Association of State Highway and Transportation Officials (AASHTO) wrote to me regarding the Federal Midwest Flood Task

Force last month, stating that "The Task Force should recognize that heavy rains might again occur in 1994, and [should] immediately undertake long-range planning to handle such a situation." Mr. Chairman, you can be assured that the Department does not think its work is done.

The Clinton Administration is committed to taking every possible action that will alleviate the effects of one of the worst natural disasters in this country in generations. The President, the Vice President, Secretary Peña, other Federal transportation officials, and I made numerous visits to the flood scene to underscore our deep concern for the victims of this disaster. In fact, the Administration's commitment to emergency preparedness did not begin with the Midwest flood. One of the first things Secretary Peña did after being sworn in was to meet with those in the Department responsible for emergency response efforts -- everything from rail strikes to earthquakes. To quote Ms. McMurray,

> We got an inkling of the Secretary's style during the Blizzard of '93. The Secretary has really moved to posture the Department to deal with disasters. Because of his interest and commitment, we in emergency response have really altered the way we've approached our roles, resulting in a positive redirection of our response efforts.

The Department would also like to commend the Committee for its role in the Federal flood relief response. Thanks to the bipartisan Congressional action in passing the emergency supplemental appropriations act, signed by the President on August 12, we have been able to react quickly and effectively to the disaster with these additional emergency program funds.

The Research and Special Programs Administration was the focal point for the Department's emergency response efforts, monitoring the effect of the flood on the country's transportation resources and reporting to the Secretary and the other operating administrations to insure informed decisionmaking. Ms. McMurray is here today to answer

your questions with regard to this organization. The RSPA provided and coordinated the Department's Transportation Emergency Support Function activities at DOT headquarters and in the field. Transportation is the number one support function in the Federal Response Plan hierarchy. The RSPA provided the Secretary's management direction to the Regional Emergency Transportation Coordinators, DOT's field officials who worked in direct support of the Federal Disaster Field Offices in the flood area.

In addition, RSPA's pipeline safety inspectors were on-site to ensure the safe operation of pipelines transporting natural gas, crude oil, and other petroleum products. The inspectors also participated in the inspection and security of propane tanks that were dislodged by the flood waters. This effort most certainly averted a possible catastrophic event by preventing these tanks from leaking and igniting. The RSPA also issued limited exemptions from some of the Department's hazardous materials regulations to allow for the safe transportation of hazardous materials out of the flood area to prevent possible contamination of the flood waters and surrounding areas.

All elements of the Department were in continuous contact with their public and private constituents to monitor and report on the situation and assist where possible. Specific examples of this cooperation can be found in throughout Department.

The **Federal Highway Administration** responded quickly to applications for Emergency Relief (ER) funds for restoration of Federal-aid highways. We also supplied personnel; 76 of our field engineers conducted damage surveys as soon as they could access the sites. These surveys, along with estimates of the costs of necessary repairs, are used by the FHWA in its decisions on providing Emergency Relief funds to the States. Even before these expedited surveys are completed, States can begin emergency repairs to restore

essential traffic service and then apply for reimbursement at a later date.

The **Coast Guard** deployed its three oil and hazardous materials National Strike Teams and its powerful assortment of pumps. Twenty-six Coast Guard Disaster Response Units worked in the area, assisting State and local authorities in rescue and evacuation efforts. During the flood, hundreds of missions have been performed. As the flood waters were falling, the Coast Guard was extensively involved with the Army Corps of Engineers in rapidly restoring the waterways to river navigation. Now that the flood waters have receded, the Coast Guard is working with the Environmental Protection Agency to assess the environmental impact of the flood.

The **Federal Transit Administration** prepared a listing of transit vehicles and assorted equipment available for loan to affected communities to help restore bus and other systems. In some areas, transit facilities were used to transport emergency water and food supplies to victims.

The **Federal Railroad Administration**, through close cooperation with private railroads and Amtrak, reported track, bridge, and signal outages to rail carriers affected by the flooding. The flood area intersects crucial traffic lanes where cargo is transferred from one mode of transportation to another. On July 27, all rail traffic in the area was temporarily halted, prompting northern or southern detours of 1,000 miles in some cases. However, the unprecedented cooperation by the railroads to overcome the disruptions clearly served to mitigate the effects on regional and national economies. Critical commodities continued to flow to customers despite the costs to the carriers of rerouting and traffic diversion. Outside the flood plain, manufacturers who rely on rail for just-in-time delivery did experience delays, but there were no reports of plant closings or layoffs because of late

deliveries.

The **Maritime Administration** (MARAD), working with the River Industry Executive Task Force (made up of representatives from the Coast Guard, Army Corps of Engineers, and the barge industry), closely monitored the flooding to assess its impacts on the marine shipping industry. MARAD representatives maintained daily contact with barge companies, port and terminal operators, trade associations, and other Federal and State agencies and relayed daily reports on lock status, flood stages, and cargo delays to industry members.

The **Federal Aviation Administration** issued temporary flight restrictions for some areas, and continues to expedite the repair of damaged aids to navigation and landing systems. All damaged airports were contacted to expedite repairs, and there are currently only two small airports which remain closed due to flood damage, one in Amana, Iowa, and a second in Hermann, Missouri.

I have submitted to the Committee prior to the hearing a number of items which analyze the Department's response to the flood and also respond to the Committee's questions. Among these documents are a report requested by the Long Range Recovery Task Force, "Transportation, Roads, and Bridges: Task Force Report on the 1993 Midwest Flood Recovery," dated August 31, 1993, and an October 18 update to this report. I have also submitted a letter I received from the American Association of State Highway and Transportation Officials dated September 27, 1993, providing comments on the August 31 report and including comments from the affected States on the 1993 Midwest Flood Response, and my reply to that letter, dated October 18, responding to the various affected States' questions and concerns. The Department also testified on September 23 before the

House Committee on Energy and Commerce, Subcommittee on Transportation and Hazardous Materials. For your information I will submit the statement of Sally Hill Cooper, the Associate Administrator for Policy for the Federal Railroad Administration. Her statement specifically details that agency's work and the cooperation of the Nation's railroads in the flood efforts.

According to AASHTO, the overall observation of top transportation officials in the Midwest was one of praise for the way in which the FHWA and the Federal Emergency Management Agency (FEMA) responded to their requests and needs. Most States reported that the process for requesting and receiving Federal emergency relief has been "very routine." Secretary Peña and I are appreciative of the praise the Department has received. But it is really praise for many people in many parts of the Department across the country. On October 13, Secretary Peña announced the recipients of the Secretary of Transportation's Gold Medal during the Secretary's Annual Awards Ceremony. The Award for Outstanding Achievement is presented by the Secretary to employees for rare and distinguished contributions of major significance to the Department, the Nation, or the World.

The Secretary's Award was presented to all DOT employees who assisted in the Midwest floods relief efforts. Secretary Peña stated that these employees did everything from working to rescue individuals trapped by rising waters to inspecting washed out roads and bridges. They organized the delivery of emergency supplies and equipment and provided transportation coordination around the clock. In all, over 110 Department employees from our headquarters office worked extensively and directly on flood relief during various periods of the disaster; over 1250 field personnel were also dedicated to our flood response program.

The Department has been in constant contact with State and local government

authorities and with all transportation industries serving the Midwest. And it's a testimony to the resilience of America's transportation systems that this disaster hasn't been even worse. Thanks to miracles of improvisation by railroads and truckers -- who have put aside their fierce competition to share lines, crews, and gear -- most of the Midwest's truly critical needs have been met. There are a lot of unsung heroes and heroines on the Midwest's roads, rails, and rivers.

Description of the Damage to the Transportation Infrastructure and Summary of the Department's Efforts to Repair the Damage

A. Description of Flood Damage

In addressing the specific areas on which the Committee requested information, I'll start by describing the damage to the transportation infrastructure as a result of the flooding in the nine-State disaster area, and summarizing the Department's efforts to repair the damage, including spending estimates and Federal repair schedules.

The destruction wrought by the flooding in the Midwest was unprecedented. At the peak of the flooding, 36 airports were closed and almost all navigation aids on the Missouri and Mississippi Rivers were destroyed. Nearly all railroad lines through the area were shut down, and a major railroad bridge across the Missouri River, the Gateway Western bridge at Glasgow, Missouri, had collapsed. Over 10,000 miles of track were affected, as breaks and washouts between major points effectively stopped through traffic.

Except for the Kansas City area, all but one bridge across the Missouri River (the I-70 bridge in central Missouri) were closed between Omaha, Nebraska, and St. Louis, Missouri. Where the Mississippi River flows past central Illinois, only bridges in the St. Louis metropolitan area were open.

The primary damage to the maritime industry as a result of the flooding was the loss

of revenues while rivers were closed to navigation for almost 90 days. Ironically, because of the heavy silt deposits in the navigation channels and the unrepaired levees, the current problem caused by the flooding is one of not enough water. Current estimates show that the barge industry lost about $200 million in revenues and terminal operators lost about $100 million. As previously noted, railroad infrastructure was severely damaged. Total costs to the railroads for repairs are in the hundreds of millions of dollars, almost all of which will be financed with private funds.

In contrast with other transportation systems, damages to the transit infrastructure were minimal. This is due, in large part, to the efforts of the transit agencies in flood-stricken areas. They moved their vehicles to higher ground and sandbagged around their physical facilities. Two exceptions were the Des Moines Metropolitan Transit Authority, which suffered flood-related damages of over $4 million to its vehicles and facilities, and the City of Excelsior Springs, Missouri, which lost its entire fleet of three buses in a flash flood. The FTA negotiated with transit agencies in Omaha, Nebraska, and Kansas City, Missouri, and obtained vehicles for the Des Moines and Excelsior Springs systems. These two transit providers must look to FEMA or their insurance companies for additional help because the Federal Transit Administration has no emergency fund to assist transit agencies after natural disasters.

B. The Department's Response

During the Midwest flooding crisis, the primary concern was providing for the health and well-being of its victims. Restoring essential transportation services is a key element in this process. Therefore, at the first sign of the impending crisis, an advance team of emergency response personnel was sent to the flood area to set up a Disaster Field Office as

quickly as possible. This office served as the nerve center in the region for the crisis. At this office, all DOT organizations called upon to respond to the disaster are formed into the group I mentioned earlier, the Emergency Support Function (ESF). It is through this group that the transportation-related Federal agencies provide the technical and human resources to assist in reviving and reconstructing the Midwest's transportation systems.

Because of the temporary loss of roads, bridges, and railroads, several alternative methods for serving the public's transportation needs were implemented, such as ferry services across areas where roads and bridges were flooded out, and bus shuttle service between ferry landing and destination areas. In addition, many trains were rerouted over the lines of other railroads, as competing rail carriers cooperated to maintain our national system of rail service, thereby limiting significantly the economic damage caused by transportation delays and disruptions.

Damages to maritime equipment were minimal, and for the most part required only the repair and cleaning of terminal areas and barges, although three barges sank in the flood. Heavier losses were sustained by the owners of cargoes, such as shippers who were unable to get their grains to export elevators or to receive their imported fertilizers for the fall plantings. The Maritime Administration has worked closely with the Coast Guard, Army Corps of Engineers, and the maritime industry to assure a swift recovery from the effects of the flood. For example, the Coast Guard and industry representatives worked with the Corps to extend the Navigation Season until December 1 or as late as weather permits. By releasing water from the reservoirs it maintains throughout the Midwest, the Corps can increase the depths of Midwestern rivers and compensate for the falling water levels that occur each Fall.

The FHWA's Emergency Relief program is administered by the State highway agencies in coordination with local jurisdictions where Federal-aid highways were damaged by the flood. Thus, by its very nature, the Emergency Relief program assures a high level of State and local input. Emergency Relief program funds are available for the repair or reconstruction of Federal-aid highways and roads on Federal lands that have suffered serious damage as a result of natural disasters or catastrophic failures. Under the emergency supplemental appropriations act, $100 million in Emergency Relief program funds were made available for emergency expenses, with another $75 million available if needed. In addition, the FHWA's annual Emergency Relief program authorization provided another $100 million on October 1.

The costs of repairing those highways not designated as Federal-aid routes and not on Federal lands may be eligible for funding from the Federal Emergency Management Agency. Under the Emergency Relief program, the Federal share of costs to restore essential traffic service and to prevent further damage to highway facilities is 100 percent for the first 180 days these costs are incurred.

The FHWA sped up the processing of requests for emergency funds to ensure that States received money to rebuild as quickly as possible, and the agency has now granted final approval on the applications for Emergency Relief funds from all nine affected States, allocating a total of $103 million in funds to date. We expect to award additional Emergency Relief funding as additional needs are identified by the States. In several of the nine affected States, extensive work is underway to repair the damaged roads and most bridges have been reopened. All major bridges on the Mississippi River are open; the last major bridge on the Missouri River will open on November 1, and the remaining bridge closed on the Illinois

River will reopen by Thanksgiving. Much of the highway repair work to be completed this construction season. In some cases involving more extensive repairs, such as bridge replacement, the work will not be finished for a year or two.

The FHWA also eased certain driver qualification and hours-of-service rules for motor carriers providing emergency relief in the flood areas to expedite the trucking of relief supplies into the disaster region, but without threatening highway safety.

In addition, FHWA engineers, through the use of inspection boats, have examined all bridges on the Mississippi River and found no serious damage on the major bridges, including those that carry Interstate roads. We plan to make additional inspections in the future to ensure that the structural integrity of the bridges was not compromised by the flooding.

The Department has made substantial strides in ensuring that victims of the Midwest flood receive the most accurate and current information on the effects of the disaster and the Department's flood relief activities. For example, the Maritime Administration has published twice-weekly synopses of the status of the flood and its transportation impacts for several months. These reports are available to the public on the MARAD Computer Bulletin Board, 24 hours a day, seven days a week, and the system allows callers to leave messages for MARAD employees. The flood synopses are shared electronically within the Department and with the White House. Information on the floods affect on all modes of transportation was available by contacting the Department's Transportation Radio Network, an 800 number providing the most up-to-date details on the status of the Department's flood response efforts.

Coordination Efforts Between the DOT, FEMA, Other Federal Agencies, States, and Local Governments

Examples of effective interagency and intergovernmental coordination can be found in

every mode of transportation. For instance, the inland barge industry established a joint government and private industry task force in 1988, the River Emergency Action Task Force (REACT), to deal with the drought. When the flood occurred, REACT was ready and able to mobilize swiftly and implement its disaster recovery plan. Such joint reaction committees for air, rail, and highway transportation could be equally valuable.

As the head of the "Transportation, Roads, and Bridges Task Force," one of twelve task forces established by Agriculture Secretary Mike Espy to implement and coordinate the Federal response to the flood, my central task is to restore the surface transportation systems ravaged by the flood waters.

The interagency transportation task force, with participants from the Departments of Transportation, Agriculture, Commerce, and Energy, and representatives of the Army Corps of Engineers and the Small Business Administration, is now identifying cross-cutting issues that could affect more areas than the transportation sector alone. For example, there are many important transportation investments throughout the Midwest that were affected by the floods. The Department will actively work to ensure that those investments are considered in any new flood plain management policies. Since the full extent of the damage to transportation facilities will not be known until the flood waters completely recede, there could be additional impacts on transportation infrastructure that we are not fully aware of at this time. The transportation task force will continue to work with the other Federal task forces and the State transportation departments to determine if there are procedures we can use in rebuilding to reduce or eliminate damage to transportation systems in the event of future floods or other natural disasters. This will be an ongoing effort.

How the Department's Response to this Disaster Differed from that of Previous Disasters

Secretary Peña, with the full support of the President, set the tone of the Department's response to the flood. He has been aggressive-- anticipating needs rather than merely responding to crises. Under Secretary Peña's leadership, the modal administrations have responded to the disaster with like speed. For example, to expedite funding to repair and rebuild light density railroad lines, the FRA responded within 10 days to State requests for funds from the $21 million in emergency funding appropriated by Congress for the Local Rail Freight Assistance Program. States are still submitting applications, but to date, a total of $9,115,797 has been approved for 17 different railroads in five States.

In addition, the Federal Aviation Administration responded to this crisis with its new, formalized crisis response structure at its headquarters and regional offices, and used a new situation report format to provide consistent flood response reports throughout the agency.

In general, the Department of Transportation followed longstanding disaster response procedures when responding to the flood. The difference between the Federal effort in response to this disaster and the responses in the past lies in the thousands of Federal, State, and local transportation agency employees and their partners in the affected transportation industries whose efforts in mobilizing to aid flood victims ensured that mistakes of the past were not repeated. The strength of the Department's response program comes from the cohesive body of trained personnel in our headquarters and field offices who train and conduct emergency preparedness exercises throughout the year to develop teamwork skills and improve overall team performance. The President insisted that every agency and Department of the Federal government mobilize to cope with whatever the storms might bring, and DOT was ready.

How Disaster Preparedness, Response, and Relief Efforts Might Continue to be Improved

Like the Committee, the Department of Transportation recognizes that the experience gained from our disaster relief efforts in the Midwest, if carefully reviewed and assessed, can be a valuable learning tool.

Disaster training provided to Department employees in the past, such as our annual disaster drills, was essential enabling us to quickly and effectively respond to the flooding. This disaster has therefore reaffirmed our view that frequent emergency response training and exercises are critically important.

In general, the Department recognizes the importance of an effective command and control system for gathering and disseminating information in a disaster, in order to ensure that we respond expediently in all disaster situations. The Secretary is committed to President Clinton's initiative of "Putting People First in Emergencies." The well-developed communications systems of the Coast Guard and Federal Aviation Administration are essential in conveying instructions to relief workers at a disaster site. The FHWA and the RSPA rely heavily on telephone systems for their disaster communications, but such systems often fail in a disaster. Therefore, these agencies have developed an emergency radio backup system which conveys disaster information to stations in each State. This system is coordinated with the rest of the Federal emergency response agencies through a shared resources network, SHARES, sponsored by the National Communications System. The Department will also work with the Department of Defense, as part of the defense conversion effort, exploring defense communications equipment and technology with the potential to greatly enhance our disaster communications capability. The Department is expanding satellite communications, enhancing automation capabilities for damage assessments, and

exploring new damage mitigation and disaster response programs that would further enhance our ability to timely address the needs of all disaster victims.

Conclusion

It is with great pride that I speak of the efforts of Department of Transportation employees nationwide in responding to the disaster wrought by the Midwest floods. Their efforts extend beyond professional duties to a personal commitment to the communities and people they serve. I can assure you that this commitment will continue until the task of rebuilding has been completed.

US Department
of Transportation

Federal Highway Administration

Office of the Administrator

October 18, 1993
Refer to: HPD-1

Mr. Francis B. Francois
Executive Director
American Association of State
Highway and Transportation Officials
Washington, D.C. 20001

Dear Mr. Francois:

Thank you again for participating in the recent Midwest Flood Recovery Task Force meeting on Transportation/Roads and Bridges. The comments you and Wayne Muri provided are most helpful as we prepare our assessment of transportation issues related to the flood recovery effort.

On September 27, you presented eight issues raised by the States concerning Federal disaster assistance. The enclosed comments respond to the first seven issues, which relate to our emergency relief (ER) program. We will provide a copy of this letter to each of our field offices involved in the flood relief effort so they are aware of our latest position on these issues.

The eighth issue involves assistance to railroads. The Federal Railroad Administration (FRA) has informed me that the special appropriations recently provided by Congress will be fully used in funding already identified rail repair needs. Unless Congress appropriates additional funds, the FRA will not have any resources available to help in possible damage repairs next spring.

You also asked about the repair of levees. A separate task force is reviewing levee impacts and we will bring your concerns to its members' attention.

I especially appreciate your forwarding the favorable comments you have heard on how our field staff have been responding and assisting with the ER program in their States. I have been very proud of the effort our field staff has made--it goes beyond professional requirements, to a personnal commitment to the communities and the people they serve. We are committed to ensuring the States receive the full benefits available from the ER program, and will continue to cooperate with Federal, State, and local officials and the private sector to that end.

Sincerely yours,

Rodney E. Slater
Administrator

Enclosure

EMERGENCY RELIEF
Responses to State Comments

The following comments respond to emergency relief (ER) issues raised in Mr. Francis B. Francois' September 27 letter to Federal Highway Administrator Rodney E. Slater:

Issue 1

RECEDING WATERS AND DAMAGE TO PAVEMENT: For roads under water, it has been FHWA's policy to allow ER funds to pay for physical damage to the road that is evident when the water recedes. States are concerned that while the roads may look alright immediately after the water recedes, the flooding may have saturated bases and underlying ground which will result in subsequent damage when traffic is allowed back on the road. In addition, these saturated bases and underlying ground may lead to quick road deterioration during the numerous freeze/thaw cycles over the full winter/early spring season. It is recommended the FHWA modify this policy for the Midwest floods.

Issue 1 Response

We have a longstanding policy of limiting ER eligibility to damage caused directly by the disaster or catastrophic event. Damage caused by traffic is generally not eligible except for traffic damage related to repair of a Federal-aid highway or other transportation facility or for traffic damage related to detours (see Issue 4). If, when flood waters recede, highway officials find that roadbeds are saturated, we expect these officials to control subsequent traffic use of these roads in such a manner that this traffic will not damage the facility.

Freeze/thaw damage to roadways, again, is not caused by the disaster itself and thus not eligible for ER funding. This type of damage occurs annually to roadways in these States and we have no reason yet to believe that this year's damage will differ significantly from historical trends.

Issue 2

BROADER DEFINITION OF EVENT: The Midwest flooding as an event has not yet run its course, as witnessed by heavy flooding again in Iowa and Missouri and the probability of still further flooding in the presence of fully saturated soils, full creeks and rivers, and expected fall and spring rains. There is concern that the FHWA might soon declare this "event" over, when in fact it appears it could continue for the rest of 1993 and into 1994. It is recommended ER continue to be available until the 1993 Midwest flood event is over.

Issue 2 Response:

For this summer's flooding, ER funding is available to repair currently identified damage as well as damage yet to be identified at Federal-aid highway sites still under water and inaccessible. If

rains this fall cause further damage to Federal-aid highways, we will evaluate each case on its own merits. If the damage occurs at generally the same sites previously damaged this summer and can be viewed as an extension of the ongoing flood damage at these sites, it can be funded under the previously approved ER finding for the summer flooding. However, if the flood damage is of a significantly greater magnitude at these previous sites or if the damage is in counties or areas not part of the previous finding, we would generally view this as another event or disaster for the purposes of the ER program. Although this would require that the extent of the damage be such as to justify a separate ER finding, certain advantages would result regarding a new finding in that it would initiate a separate 180-day time period for higher Federal share for certain repair activities and also another $100 million cap per State per disaster.

Because of the time lapse, if spring 1994 rains cause damage, we will likely view this damage as a new "event" under the ER program.

Issue 3

ROADS PREVIOUSLY SCHEDULED FOR IMPROVEMENT: Under the ER program, roads previously scheduled for improvement are not eligible for repair with ER funds. If small or minor improvements have been scheduled, does this preclude the use of ER funding of repair? For example, a road may be scheduled for repaving and flooding causes extensive damage that requires complete rebuilding of the road, or a bridge may be scheduled for repainting and it is then destroyed by the flood. To what extent, if any, can ER funds participate in permanent repairs? Also, when is a project considered scheduled for construction?

Issue 3 Response

Emergency relief funds are not intended to supplant other funds for correction of preexisting, nondisaster-related deficiencies. As a general rule, work already scheduled to repair or replace deficient facilities that are damaged during a disaster will not be eligible for ER funds but should be funded as originally intended.

The scheduling of small or minor improvements does not necessarily preclude ER funding for permanent repair work. Although each case must be evaluated individually based on the nature of the scheduled work and the extent of the damage, ER funds generally can be used to restore those elements of a highway facility back to their pre-disaster condition provided these elements were not scheduled for major repair or replacement prior to the disaster. For the above road example, assuming significant portions of the grade and roadbed have been destroyed and assuming only an overlay had been scheduled, ER funds could be used to replace the lost embankment, including placement of a suitable paved surface. However, if the flood damage

was limited to a road's surface that had previously been scheduled for improvement, placing a new permanent surface would not be the responsibility of the ER program. For the bridge example, because painting is considered to be a minor item and incidental to the structure itself, ER funding could be used to replace the bridge if it was destroyed.

A project is considered scheduled for repair or replacement if the construction phase is included in the currently approved Transportation Improvement Program and/or Statewide Transportation Improvement Program, or if contract plans are being prepared.

Issue 4

DAMAGE FROM DIVERSION: Flooding may cause diversion of traffic from major highways to lower-order roads. In some instances this diverted traffic may cause significant damage to these lower-order roads. Can ER funds be used to repair this damage?

Issue 4 Response

Official detours for closed highways are generally established on roads that are able to handle the detour traffic. If, however, it can be clearly demonstrated that the detour traffic is the cause of damage, repair of the officially established detour road is eligible for ER funding.

Issue 5

SURFACING ALREADY STABILIZED CRUSHED ROCK: To maintain essential traffic, a road grade may have been temporarily raised above flood water level with crushed rock using ER funds. The cost of removing this crushed rock to restore the pre-disaster grade would also be eligible for ER funding. However, it could be more economical to place a paved surface on the raised grade than pay for removing the crushed rock and this would preserve the benefit of the higher grade in case of future flooding. Under these circumstances, would the paving costs be eligible for ER funding?

Issue 5 Response

First, a decision has to be reached that the raised grade can be left in place. Raising the grade may have significant hydrological impacts on land surrounding the highway facility. For example, it could change future flooding patterns or impact wetland areas. Because of this, we would expect that the impacts of the raised grade would be evaluated under the environmental process. If the environmental process results in a decision that the raised grade is acceptable, this betterment, including the needed surfacing, would be viewed as eligible for ER funds.

Issue 6

TIMEFRAME FOR REPAIR: After 180 days the Federal share for emergency repairs to restore essential traffic service is reduced from 100 percent to the normal Federal share for improvements on the Federal-aid route damaged (Interstate - 90 percent; non-Interstate Federal-aid highways - 80 percent). Recent additional flooding may make this timeframe difficult to complete.

Issue 6 Response

The intent of this provision of law is not to provide 100 percent Federal funding for all repair work done under a disaster but rather to provide a higher Federal share for emergency repairs quickly completed to restore essential traffic service. Otherwise, permanent repair costs are typically funded on a Federal/State cost sharing basis as outlined above unless this permanent repair is in fact accomplished as part of the work to restore essential traffic service. Logically, this special period for a higher Federal share, which is limited to 180 days, must have started at least by the time the State has begun incurring eligible ER costs. As discussed in Issue 2 above, additional flooding may be of a nature that a decision can be reached to establish a second disaster or event under the ER program that will provide some flexibility in the 180-day timeframe for those damaged highways associated with the second event.

Issue 7

EXPENSES ON ONGOING PROJECTS: The flood has created new unexpected costs on some ongoing highway and bridge construction projects, such as where a contractor's equipment has been flooded and destroyed, or the terrain has been reshaped. Can ER pay for these unexpected ongoing project expenses?

Issue 7 Response

On active construction projects, if it can be established that repair of the in-place highway facilities is not the responsibility of the contractor but is in fact the State's responsibility, ER funds may be used to replace the in-place highway facilities back to their pre-disaster condition. For example, if the flood destroyed part of a fill that was being constructed, ER funding could be used to restore the fill back to the grade and cross-section that existed prior to the flood.

Emergency relief funding is limited to in-place highway facilities. This does not include material stockpiled on- or off-site but is limited to materials actually incorporated into the road or bridge. Further, ER funding cannot be used to replace the contractor's equipment. If a State has a responsibility to pay for contractor equipment, it will have to do so with its own funds.

FROM: Rodney E. Slater
Federal Highway Administrator

TO: HRA-05, HRA-07, HRA-08
HDA-IL, HDA-IA, HDA-KS
HDA-MN, HDA-MO, HDA-NE
HDA-ND, HDA-SD, HDA-WI

Virtually from the day the magnitude of the 1993 flooding disaster became clear, I have heard nothing but praise for the FHWA field staff. You have not only helped restore vital transportation arteries and relieved the suffering but helped reinforce the FHWA's reputation for efficient, and in this case compassionate, public service. In one of the worst disasters to hit our country, I can think of no higher compliment than Mr. Francois' comment that the States are reporting "very routine" handling of ER requests. Thanks for the good work.

FHWA:HNG-12:JOverton/RWeingroff:rw:6-4653:10/08/93 Mr. Staron HNG-10
FHWA Control No. 93015-034 HNG-1 Files HPD-WU
cc: I, HOA-1, HOA-2, HOA-3, HOAKG, HOASS HPD-VS HEP-1
HOAES, HCC-1, HCC-10, HNG-12 Mr. Torbik HEP-10 HEP-40

American Association of
State Highway and
Transportation Officials

Wayne Muri, President
Chief Engineer
Missouri Highway
and Transportation
Department

Francis B. Francois
Executive Director

September 27, 1993

To: Administrator Rodney Slater,
Federal Highway Administration

From: Francis B. Francois, Executive Director 289

Subject: State Comments on 1993 Midwest Flood Response

Last week you provided us with a copy of the Federal Recovery Task Force Report for Transportation, Roads and Bridges, dated August 31, 1993. You also invited us to come to the next meeting of the Task Force on September 28, and together with a representative from the National Governor's Association provide a State perspective on the Federal flood recovery effort.

On behalf of AASHTO and especially our Midwest member departments, we thank you for forwarding the report. It provides a wealth of information on the nature and extent of the Federal response, and several related issues. We will be forwarding a copy to all of our member departments for their information and use, and we commend the authors for their thoroughness.

We also appreciate the opportunity to provide a perspective on the Federal flood recovery effort, from the perspective of our member departments in affected Midwest states. In preparation for the September 28 meeting, the AASHTO staff contacted the departments of highways and transportation in the Midwest requesting observations on the recovery effort, and especially soliciting any suggestions and recommendations they would like us to advance to you. The following is a summary of what we received.

Overall Observations

In talking with top officials in our Midwest member departments, we have heard considerable praise for the way in which FHWA and the Federal Emergency Management Agency (FEMA) have responded to their requests and needs. Most States reported that the process of requesting and receiving Federal emergency relief has been "very routine," and either have received or are expecting approval for their emergency relief funding requests in the near future. No serious situations were reported.

The following are some of the overall observations offered:

Executive Office: 444 N. Capitol St., N.W., Suite 249, Washington D.C. 20001
Telephone (202) 624-5800 Telefax (202) 624-5806 Telex 4900009580 HTU

Iowa - Ian MacGillivray, Chief Engineer, Iowa Department of Transportation

Pleased with FHWA's response, which has been helpful, supportive and timely.

Kansas - Jim Jones, Director of Operations, Kansas Department of Transportation

Kansas stated that FHWA has been excellent to work with so far, especially within their region.

Missouri - Joe Mickes, Assistant Chief Engineer, Missouri Highway and Transportation Department

FHWA has done an excellent job so far.

Nebraska - Allan Abbott, Director, State Engineer, Nebraska Department of Roads

Nebraska has no continuing problems on roads and bridges that need to be brought to the attention of the Federal Flood Task Force.

North Dakota - Ray Zink, Chief Engineer, North Dakota Department of Transportation

The process has been very routine so far, and North Dakota expects to receive approval of its emergency relief funding request. They have no concerns with the FHWA's handling of this process so far.

South Dakota - Dean Schofield, Deputy Director, South Dakota Department of Transportation

South Dakota has had no problem with FHWA funding so far, and it has already received approval for its emergency funding request. Their only problem has been with getting timely inspections of bridges from FEMA.

Concerns and Suggestions

Several of the member departments have described concerns they have, and offered suggestions. The following is a summary by general topic, and the states raising the topic are identified.

1. *Receding Waters and Damage to Pavement*

Some States advised that the FHWA has ruled that pavement has to be damaged when the water recedes off the road in order to receive

emergency funding for repair. They expressed concern that while the roads may look alright immediately after the water recedes, the flooding may have caused extensive damage to the saturated bases and underlying ground which will result in subsequent damage when traffic is allowed back on the roads. In addition, they believe that these saturated bases and underlying ground may lead to quick road deterioration during the numerous freeze/thaw cycles expected over the full winter/early spring season.

It is recommended that for the Midwest floods the noted FHWA ruling be modified, and that FHWA Emergency Relief funds be made available for road repair needs that are discovered after inspections and after the completion of this coming winter season. (Iowa, Illinois and Missouri)

2. *Broader Definition of Event*

Emergency aid is available for an event. The Midwest flood as an event has not yet run its course, as witnessed by heavy flooding again within the past few days in Iowa and Missouri, and the probability of still further flooding in the presence of fully saturated soils, full creeks and rivers, and expected fall and spring rains. There is concern that the FHWA and FEMA might soon declare this "event" over, when in fact it appears it could continue for the rest of 1993 and into 1994. Federal emergency aid should continue to be available until the 1993 Midwest flood "event" is truly over. (Iowa)

3. *Roads Previously Scheduled for Improvement*

Some states advise that the FHWA has also ruled roads previously scheduled for improvement are not eligible for federal relief funds. Concerns about this ruling have been raised by states that have experienced significant damage on roads that were scheduled prior to the flooding for small or minor improvement projects. According to the noted FHWA ruling, these roads are now not eligible for flood relief funding even though repairing them will cost significantly more than the cost of the planned project. (Iowa and Missouri)

For example, Missouri had a road that was scheduled to be resurfaced. However, the flooding caused extensive damage that necessitated complete rebuilding of the road at a cost much higher than the original resurfacing project. The entire cost of this repair was incurred by the state, under this FHWA ruling. (Missouri)

Iowa pointed out that under this ruling, for example, if a bridge was scheduled for painting or a similar low cost project in FFY 1993 and then was destroyed in the flood, the state would be in the unfair position of having to pay the full cost of bridge replacement just because the structure was scheduled for painting.

There is also a question of the application of this ruling with relation to when the project was scheduled for construction. Iowa can understand the FHWA position if the project was scheduled for the current Federal fiscal year, which is essentially funded. But if the project was only scheduled for next fiscal year or later, then they submit this policy should not be followed because such long-range scheduling is not funded and might not actually occur.

4. *Damage from Diversion*

Because of the severity of the flooding, much traffic had to be diverted from major highways to smaller roads. Many of these smaller roads have incurred significant damage and are not eligible for federal flood relief. An apparent exception to this is that these roads are eligible for funding if the damage has resulted from hauling materials to flood damage sites. Some states believe that because damage on these small roads to which traffic had to be diverted was a direct result of the flooding, the damaged roads should be eligible for federal relief funds. (Iowa and Missouri)

5. *Surfacing Already Stabilized Crushed Rock*

Illinois asked that FHWA consider allowing state DOTs to use Emergency Relief funds to place an asphalt concrete surface on the already stabilized crushed rock that has been used to elevate these roads above the floodwaters. This would be a more economical use of Emergency Relief funds rather than removing the rock, and it will preserve the benefit of the higher grade in case of future flooding.

6. *Timeframe for Repair*

Some states expressed concern about the timeframe on emergency repairs to flood-damaged roads. Apparently, they are being advised that FHWA funding will be reduced from 100 percent to 80 percent if the project is not finished within 180 days of its beginning. Recent additional flooding may make this timeframe difficult to keep.

Kansas suggests that FHWA be aware of this situation and provide exception approvals when appropriate.

7. *Expenses on Ongoing Projects*

The flood has created new unexpected costs on some ongoing highway and bridge projects, such as where a contractor's equipment has been flooded and destroyed, or the terrain has been re-shaped. There should be consideration of emergency funds to meet these unexpected ongoing project expenses.

8. *Railroads*

Illinois DOT is in the process of submitting an application for federal funds to reimburse eight railroads that incurred flood damage to rail lines in the State. It believes that additional federal funds should be made available next spring for rail line damage that may develop after the full winter/early spring season freeze and thaw cycle.

We urge that these eight areas be addressed by the Federal Recovery Task Force. If there is any way in which AASHTO can be of assistance, do not hesitate to let me know.

Looking ahead, there is another important subject that the report mentions but devotes little space to, the problem of repairing broken levees. This problem also needs to be addressed, because until it is the areas now unprotected by the levees will continue to be threatened. If, as is now being predicted by some, 1984 should prove to be another year of excessive rain fall, the outlook could be especially grim for the areas affected when the levees were breached. Faced with broken levees, saturated soil and full streams, rains in 1994 approaching or exceeding the record 1993 rainfall could be truly catastrophic. The Task Force should recognize that heavy rains might again occur in 1994, and immediately undertake long-range planning to handle such a situation.

Overall, given the severity of the 1993 Midwest flooding, the fact that for the most part the nation's highways and railroads were able to continue meeting their transport responsibilities these past several months is a tribute to those responsible for designing, constructing and maintaining them over the past decades. It is also a tribute to the response of the Federal government to the crisis, and especially the efforts of the members of the Federal Recovery Task Force, working with the States and the private sector.

Again, we appreciate this opportunity to respond to the work and report of the Federal Recovery Task Force.

TRANSPORTATION

ROADS

AND

BRIDGES

1993 MIDWEST FLOOD RECOVERY

TASK FORCE REPORT UPDATE

October 18, 1993

From reports furnished by: Federal Highway Administration, Federal Railroad Administration, Maritime Administration, U. S. Coast Guard, Federal Aviation Administration, Federal Transit Administration, Research And Special Programs Administration, Department of Energy, Federal Emergency Management Agency. Compiled by Federal Highway Administration

The objective of this report is to follow up with responses and updates to the questions that were brought to the attention of the Transportation/Bridges and Roads Task Force at the September 28, 1993 task force meeting. This task force is one of 12 Federal task forces that were established by Secretary of Agriculture Mike Espy to implement and coordinate the Federal response to the Midwest Flood. The primary charge of the Transportation task force is to facilitate Federal efforts to restore the transportation systems in the States affected by the flood.

At the September 28 meeting task force members were requested to respond to the following three items:

- The Department of Agriculture request that issues be identified that may be cross cutting issues that could impact more than one Task Force.

- Mr. Rodney E. Slater, Task Force Chairman, called for an update of the information contained in the August 31, 1993 Task Force report.

- Identification of any future or longer term issues that should be brought to the attention of Secretary Espy for the flood recovery effort. This is particularly important with regard to the elimination of recurring problems in the event of another flood.

The individual agency responses to the above items are attached. A summary of these responses follows:

- In response to cross cutting issues that could impact more than one Task Force, several agencies are concerned about the nature of levee repair and its impact on transportation. For instance, if the Environmental Flood Recovery Interagency Working Group's long-term recovery plan involves the restoration of ecological values of the floodplain as an alternative to restoration of the levees there may be serious impacts on roadways and railways including the establishment of alternative transportation routes. Increased cost of relocating transportation systems should be part of the overall cost equation.

- Updated information to the August 31, 1993 Transportation Roads and Bridges Task Force Report:

  Federal Highway Administration - Emergency Relief (ER) funding has been approved for eight of the nine States and the Illinois request is being reviewed. The States have been provided approximately $97 million in ER funds to date. Because of the high water which still restricts access to some sites, a full inventory of the damage to Federal-aid highways has not been completed. In addition, recent heavy rains are causing further damage in some States. It is expected further ER funding will be provided to the States as additional needs are identified. An update of the status of each State is included in the attachment.

Mississippi Public Service Commission, Pete Eiland (601) 961-5475
Tennessee Public Service Commission, Glynn Blanton (615) 741-2844

OPS Southwestern Region, Jim Thomas (713) 750-1746
Louisiana Department of Natural Resources, Joel Kohler (504) 342-5585

Office of Intermodalism Flood Update

In response to your request for information on transportation issues that may be impacted by other Task Forces and future issues that should be brought to the attention of the flood recovery effort, I offer the following:

1. The Levee Reconstruction and Wetlands Task Force (renamed the Environmental Flood Recovery Interagency Working Group) is in the process of preparing a long-term plan which contains a process for recovering and managing floodplains. Part of this plan involves the restoration of ecological values of the floodplain as an alternative to restoration of the levee system. Michael Huerta and I have been attending meetings of this Task Force.

There may be impacts on the transportation system in the flood area, if levees, upon which roadways and rail tracks are situated, are not restored or replaced. Alternate transportation routes may have to be established in these cases. The Environmental Task Force may also have to deal with some transportation issues. Even if the roadways and railroad tracks are restored, there may be delays due to environmental assessments of alternative courses of action.

2. If failed levees are restored, the owners of privately-built levees should be encouraged, and be given financial assistance if needed, to build them to meet Federal standards, as most of the failed levees were privately built. The repercussions from any flooding in the future would not be as grave if more of the levees met Federal standards. Perhaps there should be some sort of educational and outreach campaign into the flood areas to get this idea across to those responsible for the levees.

Again, there is the issue mentioned above of the choice of non-construction alternatives to the levee system, such as restoration of floodplains wetlands and relocation of communities. If there is rerouting of roads and railroads, there may be increased costs (and funding) associated with the provision of alternate routes.

3. Emphasis should be placed on the coming together of representatives from the affected local areas with Federal and State representatives in order to address the issues and build consensus around any long-term rebuilding effort.

Department of Energy Flood Update

Thank you for inviting me to the meeting of the Transportation/Roads and Bridges Task Force. I think the Task Force has done a fine job of putting together a good report under a tight deadline. You and your staff should be proud of a job well done.

The Office of Emergency Management staff have been maintaining a close watch on energy systems in the flood area. We have ongoing surveys of fuel supplies at electric power plants and offer the following observations on coal supplies.

Barge Traffic

Coal traffic on the Mississippi, Illinois and Missouri Rivers has been heavy as utilities are beginning to rebuild supplies. The rivers, closed to barge traffic north of St. Louis for almost two months this summer, have again been disrupted by heavy rains in the Midwest. Lock and Dam 27, a key facility on the Missouri River just north of St. Louis, was closed to barge traffic from September 23 through 27. In addition, despite round-the-clock dredging efforts to remove silt deposited by flood waters, the Mississippi remains impassable to barge traffic in several places below St. Paul. Restrictions on barge tow speeds remain in place because of weakened levees, and many navigational aids swept away by the flood have not been replaced, requiring slow speeds and daylight-only traffic.

Railroad Traffic

Railroad traffic in the midwest was affected by the flooding less severely than barge traffic. Repair crews have worked hard to get many flooded tracks back in service. The recent heavy rains have forced rail traffic to be rerouted and delayed, but generally freight deliveries continue at near normal rates. The rail spurs to a few coal-fired utility plants have again been flooded and damaged. For example, the rail links to Union Electric Co's Rush Island and Sioux power plants are again out of service and not expected to be repaired for several weeks. This will not affect Union Electric operations because the summer peak demand period has passed and enough coal is on site.

Fuel Supplies

Midwest electric utilities have begun to build coal stocks at generating station along the rivers. Utilities generally anticipate normal levels of coal to be in place for this winter. Most power plants located on the rivers can receive coal by barge and rail. In the winter, when river traffic stops, most power plants receive supplies by rail. In general, barge shipments are less expensive than rail. Utilities that are making special efforts to resupply power plants are tending to pay premium prices for the coal. The consensus of the utilities surveyed is that the current rains have only delayed restocking efforts by about one week. However, assumptions of normal winter coal levels are dependent upon dryer weather.

The unresolved United Mine Workers strike exacerbates the shortages, because coal from midwestern sources such as Illinois, Ohio and Kentucky mines [areas most heavily affected by the strike] are generally being

replaced by western coal which is moved long distances by rail.

Although we received numerous reports of flooding problems at Midwest utilities power plants, no customer brownouts or blackouts resulted from power supply problems. Those utilities with units out of operation have been buying electricity from other utilities. The area power supply and transmission systems are able to serve customer loads. We have no reason to believe that the summer flooding and recent rains will cause bulk power supply disruptions in the Midwest. We do not anticipate coal supply problems at power plants in the flood area this winter.

Federal Emergency Management Agency Flood Update

Repair Needs

Highways

Federal Emergency Management Agency (FEMA) Programs

ILLINOIS

In Illinois, road damages, on non federal-aid roads, are currently estimated at $5.7 million. Roads remain inundated in southern counties. Further damage to roads is expected from traffic on roads with saturated sub-bases, and from freeze-thaw cycles.

IOWA

In Iowa, road damages, on non federal-aid roads, are currently projected to be $16 million.

KANSAS

Current estimate of damages to non federal-aid rods is $7.5 million, with no major impacts.

MINNESOTA

Approximately $12.5 million in damage to non federal-aid roads and bridges is expected. There is no major impact since most roads have been repaired and bridge damage that has not been repaired is on minor roads.

MISSOURI

There is $48 million in estimated damages to non federal-aid roads. Many roads are still inundated and cannot be inspected or repaired at this time.

NEBRASKA

Estimated damages to non federal-aid roads is $12.2 million. Many roads

remain closed due to destroyed bridges.

NORTH DAKOTA

The current estimate is $2.8 million in damages to non-federal aid roads.

SOUTH DAKOTA

$5.6 million is the current estimate of damages to non-federal aid roads.

WISCONSIN

The current estimate for non-federal aid roads is $5.7 million.

Rail

Federal Emergency Management Agency (FEMA) Programs

Railroad systems are operational in all states, and as expected there are few railroad facilities eligible for FEMA assistance.

ILLINOIS - No eligible applicants.

IOWA - There are two known eligible applicants, Iowa DOT and Boone RR Historical Society. Estimated damages are $475,000.

KANSAS - One siding may be eligible.

MINNESOTA - No eligible applicants.

MISSOURI - No eligible applicants.

NEBRASKA - No eligible applicants.

NORTH DAKOTA - No eligible applicants.

SOUTH DAKOTA - No eligible applicants.

WISCONSIN - No eligible applicants.

Public Transit

Federal Emergency Management Agency (FEMA) Programs

ILLINOIS - No applicants.

IOWA - Iowa DOT may be an applicant, 5 transit systems report flood damages. No estimate is available, however, damages are expected to be minor.

KANSAS - No applicants.

MINNESOTA - No applicants.

MISSOURI - Minor damages to equipment. Some emergency costs for evacuation.

NEBRASKA - No applicants.

NORTH DAKOTA - No applicants.

SOUTH DAKOTA - No applicants.

WISCONSIN - No applicants.

Pipelines

FEMA has had no eligible facilities that were damaged in the flood.

Air

Federal Emergency Management Agency (FEMA) Programs

Eligible damage to airports has been minor, with little impact.

ILLINOIS - No eligible applicants.

IOWA - Six municipal airports with minor damage have been identified. The Emmetsburg Municipal Airport (Palo Alto) has been identified with heavy damage, the preliminary estimate is $100,000.

KANSAS - One airport with minor damage.

MINNESOTA - One airport with minor damage. No impact.

MISSOURI - Fourteen airports were impacted. Only three have significant damage, one of these is covered by insurance.

NEBRASKA - Hangar damage at two airports. No impact.

NORTH DAKOTA - No eligible applicants.

SOUTH DAKOTA - No eligible applicants.

WISCONSIN - No eligible applicants.

Water

Federal Emergency Management Agency (FEMA) Programs

ILLINOIS - No eligible applicants.

IOWA - Nine eligible applicants with water ports with minimal damage. All ports are currently in operation.

KANSAS - No eligible applicants.

MINNESOTA - No eligible applicants.

Federal Railroad Administration - Based on meetings with the Interstate Commerce Commission, the American Shortline Railroad Association, the Association of American Railroads and individual Class One carriers, it appears that all principal railroads have resumed full service operations over the affected routes with specific exceptions in the state of Missouri. Affected states will apply for Local Rail Freight Assistance (LRFA) funding. FRA is taking a proactive roll to work with the affected states to iron out any issues or problems in advance.

Maritime Administration - Maritime's prognostications (see pages 46 and 50 of the Task Force Report) have been proven accurate thus far. The Maritime Administration is also concerned with completing the levee repairs before an early winter and the possibility of a repeat flood next spring. The government needs to educate and prepare the public for a re-visitation of flood problems in order to avoid a major public backlash.

U. S. Coast Guard - All aids to navigation have been restored and all bridges have been returned to normal operations.

Federal Aviation Administration - Eight general aviation airports remain in various stages of reconstruction. Five airports (Creve Coeur, MO.; Hermann, MO.; Lexington, MO.; Arrowhead, MO.; and Amana, IA.) will remain closed indefinitely due to extensive damage from the initial flooding which was complicated by the recent flooding. The Perryville, MO. airport is expected to reopen on a limited operational basis on October 18, 1993. Full restoration of the Spirit of St. Louis Airport and the Jefferson City Airport, to include navigation aids, will be completed after levee reconstruction. Work continues on the reconstruction of the St. Louis Automated Flight Service Station.

FTA Flood Update - All transit systems in urban areas are fully operational. The same holds true for specialized rural and elderly/disabled, transit systems which operate, primarily, in urban areas. Concerning claims, vehicle and equipment losses are being negotiated with insurance companies and with the Federal Emergency Management Agency (FEMA) since their funds, are intended to cover "pre-flood" vehicle/equipment conditions based on age and maintenance records, exceeding insurance coverage. If the insurance adjusters claim vehicles/equipment as a total loss but the amount paid reflect "current value" but not "replacement value", no monies would be expected from FEMA. Some States, like Missouri, does not provide a "local share" and, therefore, the cost difference to replace vehicles and damaged equipment is left to the transit system since the FTA has no emergency funds. Estimates of structural damages are still being determined.

RSPA Office of Pipeline Safety - $10 million dollars rather than $8 - 10 million dollars is projected for Panhandle Eastern Pipe Line Company to stabilize pipelines, repair damaged roads, and replace damaged pipe and facilities near Booneville, Missouri. $2.7 million dollars instead of $1 million is projected for Amoco

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MISSOURI - Three public ports suffered minimal damage. All are in operation.

NEBRASKA - No eligible applicants.

NORTH DAKOTA - No eligible applicants.

SOUTH DAKOTA - No eligible applicants.

WISCONSIN - No eligible applicants.

SUMMARY OF CURRENT ESTIMATE FOR FEMA PROGRAM

Highways	$116,000,000
Rail	minimal
Public Transit	minimal
Pipelines	none
Air	less than $2,000,000
Water	minimal

Pipeline Company to provide support to pipelines, replace a creek crossing and provide for future contractor inspections for pipelines in Chariton County, Missouri.

DOT Office of Intermodalism - Transportation issues that may be impacted by other Task Forces and future issues that should be brought to the attention of the flood recovery effort include levee reconstruction and long-term planning which contains a process for recovering and managing floodplains. Part of this plan involves the restoration of ecological values of the floodplain as an alternative to restoration of the levee system. There may be impacts on the transportation system in the flood area, if levees, upon which roadways and rail tracks are situated, are not restored or replaced. Non-construction alternatives to the levee system, such as restoration of floodplains wetlands and relocation of communities may cause the rerouting of roads and railroads, which may cause increased costs (and funding) associated with the provision of alternate routes.

Department of Energy - Indications are that the summer flooding and recent rains will not cause bulk power supply disruptions or coal supply problems at power plants in the Midwest flood area this winter. Barge and rail traffic are beginning to build coal stocks at generating stations along the rivers and utilities with units out of operation have been buying electricity from other utilities.

Federal Emergency Management Agency - The current estimate for the repair of non federal-aid roads is $116 million dollars. Further damage is expected from traffic on roads with saturated sub-bases, and freeze-thaw cycles. Estimates for the Air mode is less than $2 million dollars for the FEMA program and other transportation modes is minimal. The estimate for Pipelines is 0.

- Identification of any future or longer term issues that should be brought to the attention of Secretary Espy. Two main concerns seem to be a common thread across the transportation industry. One is the consideration of the relocation of communities and the effect that would have on the replacement of existing transportation facilities from a major cost and service perspective. Secondly, the elimination of levees particularly those that carry roadways and rail roads could also have a major disruption and cost component. In addition to these primary concerns, consideration should be given to setting appropriate standards for levee construction carrying transportation facilities and the educating of the public in case of a repeat flood next spring.

If you have any questions regarding this report please contact Mr. Richard A. Torbik at (202) 366-0233 or Mr. Harold Wood at (202) 366-4092.

Attachments:

FHWA Flood Update

ILLINOIS

An ER application has been submitted and is being reviewed. Total ER funding needs are estimated to be in the $15 -20 million range. The Mississippi River bridge at Quincy and the Joe Page Bridge on the Illinois River remain closed.

IOWA

An ER application has been approved. The State has been provided $16.7 million in ER funds to cover the estimated Federal share of repair costs. No significant routes are closed to traffic.

KANSAS

An ER application has been approved. The State has been provided $18.4 million in ER funds to cover the estimated Federal share of repair costs. Two minor State route remain closed. Heavy rain in late September has caused damage to Federal-aid highways in two or three counties in southeast Kansas. These counties were not included in the summer flooding and for the purposes of the ER program this repair work will be treated as a new event. Estimated repair costs are $1 million.

MINNESOTA

An ER application has been approved with an initial allocation of $4.5 million in ER funds. Total ER funding needs are estimated at $7 million. All Federal-aid routes in the State are open.

MISSOURI

An ER application has been approved. The State has been provided $47.8 million in ER funds with total ER funding needs estimated at about $50 million. Due to recent rains, approximately 70 roads and bridges are still closed including four bridges over the Missouri River and one over the Mississippi River. During a recent special session of the State legislators, the highway commission was given the authority to issue bonds to help pay for flood damage to State highways; however, the initial decision of the commission is that the bonds are not needed yet.

NEBRASKA

An ER application has been approved. The State has been provided $3 million in ER funds to cover the estimated Federal share of repair costs. All State routes are open except for Nebraska Route 8 at the Big Nemaha River east of Dubois where two bridges were washed out.

NORTH DAKOTA

An ER application has been approved. The State has been provided $2.8 million in ER funds to cover the estimated Federal share of repair costs. All State routes are open.

SOUTH DAKOTA

An ER application has been approved. The State has been provided $2.1 million in ER funds to cover the estimated Federal share of repair costs. All Federal-aid routes in the State are open.

WISCONSIN

An ER application has been approved and an initial allocation of $1.5 million in ER funds was made. Total ER funding needs are estimated to be $3 million. All State routes are open with only one county Federal-aid route closed.

FRA Flood Update

STATE BY STATE RAILROAD RECOVERY STATUS:

Based upon recent meetings with Interstate Commerce Commission staff, the American Short Line Railroad Association, the Association of American Railroads and individual Class One carriers, it appears that all principal railroads have resumed full service operations over the affected routes, with the following specific exceptions in the State of Missouri:

o The Gateway Western Railroad, which operates a main line from Kansas City to St. Louis and to Springfield, IL, has severe breaks and washouts on that line in several places that will require extensive reconstruction of embankments and major bridge structures. Service by the railroad is being maintained by rerouting its traffic over the lines of other rail carriers. How long this expensive action can be maintained by the Gateway Western is not known.

o The Santa Fe Railway, the Union Pacific Railroad and the SOO Line report normal, but very heavy train operations.

o Burlington Northern's operations in Missouri have been severly affected, with traffic levels currently estimated to be around 50 percent of normal for this time of year.

PROGRAM IMPLEMENTATION ISSUES AND UNMET NEEDS:

Based upon the likelihood that several of the affected States will apply for Local Rail Freight Assistance (LRFA) funding from FRA, program staff have taken proactive steps to work with those States to iron-out any issues or problems in advance. No unusual issues are anticipated, and FRA staff will work with the States and the Corps of Engineers on the Gateway Western Railroad's specific problems on its main line, as cited above, as they may be affected by the line's proximity to the Missouri River.

MARAD Flood Update

1. All transportation modes (barge, rail, truck) will be affected by the Levee Task Force. Although the Corps of Engineers is working as fast as

possible in inspecting, letting contracts and repairing levees, continuing sporadic rains and the advent of early winter will prevent them from completing levee repairs prior to next Spring. The normal Spring floods will almost surely recreate some of the problems we have witnessed in 1993. Can our committee get a status report from the Levee committee? The government needs to educate and prepare the public for a re-visitation of flood problems in Spring '94 in order to avoid a major public backlash.

2. Unfortunately, our prognostications on pages 46 and 50 of the report have been proven accurate thus far.

On page 47, items: (1) the Corps has now agreed to keep the Missouri River open until December 1 and to keep the upper Mississippi open as long as weather permits (about December 1); (2) We understand that unemployment benefits have been extended but without specific relationship to the flood; (3) We have not heard any report extending tax filing deadlines. Have you? (4) Can you ask the Levee Committee or Corps to give us an update on this point?

3. Per above, levee reconstruction is the key to your question.

USCG Flood Update

All aids to navigation have been restored and all bridges have been returned to normal operations.

FAA Flood Update

Eight general aviation airports remain in various stages of reconstruction. Five airports (Creve Coeur, MO.; Hermann, MO.; Lexington, MO.; Arrowhead, MO.; and Amana, IA.) will remain closed indefinitely due to extensive damage from the initial flooding which was complicated by the recent flooding. The Perryville, MO. airport is expected to reopen on a limited operational basis on October 18, 1993. Full restoration of the Spirit of St. Louis Airport and the Jefferson City Airport, to include navigation aids, will be completed after levee reconstruction. Work continues on the reconstruction of the St. Louis Automated Flight Service Station.

FTA Flood Update

o All transit systems in urban areas are fully operational. The same holds true for specialized rural, or FTA Section 18, transit systems and for specialized elderly/disabled, or FTA Section 16(b) (2), transit systems which operate, primarily, in urban areas.

o Concerning claims, vehicle and equipment losses are being negotiated with insurance companies and with the Federal Emergency Management Agency (FEMA) since their funds, according to regulation, are intended to cover "pre-

flood" vehicle/equipment conditions based on age and maintenance records, exceeding insurance coverage. That is, if the insurance adjusters claim vehicles/equipment as a total loss but the amount paid reflect "current value" but not "replacement value", no monies would be expected from FEMA. Some States, like the State of Missouri, does not provide a "local share" and, therefore, the cost difference to replace vehicles and damaged equipment is left to the transit system since the FTA has no emergency funds.

o Estimates of structural damage costs to facilities are still being determined.

RSPA Office of Pipeline Safety Flood Update

The Research and Special Programs Administration's Office of Pipeline Safety (OPS) is the federal safety authority responsible for 1.7 million miles of hazardous liquid and natural gas pipelines. OPS enacts its authority through five (5) regional offices and fifty (50) state pipeline safety compliance programs participating though OPS-administered grants. The grant program permits OPS to reimburse a state for up to 50 percent of the state's compliance program expenses, subject to the availability of appropriated funds and the extent of the states jurisdiction over pipeline facilities.

Available Programs

OPS does not currently have authority to provide emergency relief for the repair or reconstruction of pipelines which have suffered damage as the result of natural disasters. OPS will continue facilitating prompt and immediate response to safety issues, such as issuing safety advisory bulletins and waiving the pipeline safety regulations where appropriate. OPS issued an Advisory Bulletin July 29, 1993, advising pipeline companies of potential hazards and preventive actions to be considered regarding pipelines and flooding. OPS approved a waiver August 16, 1993, allowing Utility Consultants Inc. to expedite restoring natural gas service to the city of Hermann, Missouri.

Repair Needs

Natural gas distribution companies providing service to communities in the flood area have generally anticipated the problems associated with flooding, shut off services, and secured their equipment as flood waters rose.

Pipeline companies supplying petroleum products and transporting natural gas have not been significantly affected by the flood. Early indications are that only six (6) pipeline failures have occurred; two (2) product lines, Big Sioux River between Iowa and South Dakota; two (2) natural gas lines, Missouri; one (1) anhydrous ammonia line, Nebraska; and one (1) abandoned line filled with nitrogen, Missouri. The primary concern for pipelines traversing the flood region, is removal of soil from around the pipelines, leaving them exposed. To alleviate stresses and possible damage to exposed pipe by external loading and floating debris, protective soil or other suitable materials must be

restored around pipelines.

Many pipeline facilities remain submerged and repair estimates will not be available until flood waters have subsided and damage assessments completed. Some examples of projected cost in the flood region are:

- $10 million dollars for Panhandle Eastern Pipe Line Company to stabilize pipelines, repair damaged roads, and replace damaged pipe and facilities near Booneville, Missouri.
- $4 million dollars for restoring the Missouri natural gas distribution systems affected by the flooding; estimates include repair of service meters and regulator stations, replacement of river crossings, and restoring service to customers.
- $2.7 million dollars for Amoco Pipeline Company to provide support to pipelines, replace a creek crossing, and provide for future contractor inspections for pipelines in Chariton County, Missouri.
- $1.4 million dollars for Amoco Pipeline Company to replace a river crossing and install a new section of pipeline near Hawarden, Iowa.
- $0.5 million dollars for restoring Illinois natural gas distribution systems affected by the flooding; estimates are for repairing and servicing meter and regulator stations.

Plan to Complete Repairs

OPS will continue to support state programs, responsible for assuring the continued safe operation of pipeline systems subjected to flood hazards.

Pipeline operators are coordinating with emergency responders and using emergency contractors to assure safety and minimize the possibility of damage to the environment. Pipeline companies are using divers, where possible, to determine if their pipelines have incurred damage. Roads are being constructed to provide access for equipment needed to stabilize exposed pipeline sections. When flood waters subside to the necessary level, crews will complete repairs on failed pipeline sections.

Contact Person(s):

OPS Central Region, Ivan Huntoon (816) 426-2654
Illinois Commerce Commission, Steve Smock (217) 785-1165
Iowa Department of Commerce, Donald J. Sturema (515) 281-5546
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Minnesota Department of Public Safety, Walter Kelly (612) 296-9636
Nebraska State Fire Marshal, Leonard Steiner (402) 471-2027
Wisconsin Public Service Commission, Tom Stemrich (608) 266-8128

OPS Southern Region, Fred Joyner (404) 347-2632
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Kentucky Public Service Commission, E. Scott Smith (502) 564-3940

The Challenge of the Mississippi Flood

By Mary Fran Myers and Gilbert F. White

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Massive flooding in the upper Mississippi River and lower Missouri River basins last summer caused widespread human distress and provoked sober public questioning of the wisdom of the policies and programs that had contributed to that disaster. The slowly rising muddy water floated a cluster of tough issues into the national arena.

As the waters recede and recovery efforts pass their peak, it is appropriate to ask how the United States came to mount its long, giant struggle to master the flows of the Mississippi. What were the dimensions of the 1993 floods in terms of rainfall, streamflow, and control works—both surviving and damaged? Why did so many levees fail? What were the consequences for people, buildings, and the natural landscape? How effective has the prevailing patchwork of federal, state, and local efforts been in dealing with flood losses? Did the Mississippi overflow waters carry significant messages for citizens and administrators who have sought and still seek lasting harmony with extreme forces in nature? Can these messages motivate fundamental changes in policies on disaster response, recovery, and mitigation and on long-term management of the nation's waters and associated lands?

Central Issues

Frequently in U.S. history, one dramatic event that stirs public concern and shakes up legislators and administrators has led to basic changes in the course of action on natural resources. The record of flood policy illustrates this reaction handsomely. The immediate window of opportunity for change is likely to last a few months or as much as a year or two. Then, the opening may be expected to contract.

It seems possible that, within the current window of opportunity, the nation could resolve three major issues. First and most pressing, decisions must be made about whether to rebuild, strengthen, raise, lower, or abandon the levees along the upper Mississippi and lower Missouri rivers. How those decisions are to be made is now the subject of searching and testing by concerned citizens and public officials. Will that review and further study result in leaving the rivers very much as they were last June, or will the debate trigger radical revisions?

Second, it remains to be seen what effect these early decisions, in focusing on the emergency, will have on the long-term quality of natural landscapes and human communities in the region. They could optimize the distinctive floodplain values without degrad-

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ing basic resources, or they could exacerbate problems in the long run. Of course, both the problems and the solutions are likely to differ greatly from place to place within the basin. Can the knowledge and skills of the region be mobilized to achieve optimal solutions?

Third, it is apparent that the actions taken to cope with the floods may stimulate measures that could have large significance for water management in the entire nation. Some of these possible measures are improving methods for comparative evaluation of levees with other adjustments to floods; reshaping policy for dealing with substantially damaged structures after flooding; revising the strategy for protecting vulnerable public facilities, such as water treatment plants; changing the policy for extension of federal assistance to property owners who have not elected to purchase flood insurance; increasing the degree to which the availability of federal crop or flood insurance is tied to mitigation of flood, erosion, or drought vulnerability; and expanding the federal government's capacity to assist local communities in drawing up and carrying out plans to address jointly residential, commercial, recreational, agricultural, and wildlife aims in adjusting to the flood hazard. Certain of these measures, such as improvements in flood insurance practice, might have been undertaken in any case, but most are currently receiving attention because of the summer's floods.

How We Arrived Here

The federal government's involvement in coping with flood hazards has grown in sporadic jumps ever since 1825, when a unit of the Army Corps of Engineers was authorized to make waterway improvements (see the box on this page). Although navigation initially was the principal aim, the channel works had incidental benefits for flood management. Floods were then considered by all concerned to be the province of local and state levee districts. By the major flood of 1850, however, it was recognized in the lower Mississippi basin that some broader kind of program was needed to cope with recurrent flood losses, even though the primary cost was to be nonfederal.[1]

After discussions of various possible approaches, a report by two Army engineers, Andrew A. Humphreys and Henry L. Abbott, was received in 1861 as a basis for guiding investment, chiefly by local agencies, in further protection works.[2] The ap-

SIGNIFICANT EVENTS IN THE DEVELOPMENT OF U.S. FLOOD CONTROL POLICY

1825	Board of Engineers for Internal Improvements is authorized to undertake waterway improvements; levees are incidental. Early settlers already active in building local levees.
1850	Because of destructive flooding in the Mississippi basin, Congress authorizes surveys of the Mississippi Delta's flood problems.
1853	C. S. Ellet, Jr., an engineer, proposes comprehensive flood control for the Mississippi, including levees below Cairo, Illinois, and reservoirs in the Ohio River basin.
1861	Two army engineers, Albert A. Humphreys and Henry L. Abbott, propose reliance on levees only, and their proposal is adopted.
1862 1865 1869 1874	Flooding in the Mississippi River basin.
1879	The Mississippi River Commission is created.
1913	The Ohio Valley floods. The Board of Officers on River Flooding is created.
1917	Federal Flood Control Act of 1917 is passed and establishes a policy of federal funding in restricted areas.
1927	The great flood of 1927 overwhelms the lower Mississippi basin. Comprehensive "308" basin surveys are authorized by the Rivers and Harbors Act.
1928	The Flood Control Act of 1928 is passed, ending the "levees only" policy.
1935–36	Heavy flooding in New England.
1936	The Ohio Valley floods. The Flood Control Act of 1936 establishes a national structural program with local cost sharing, including soil conservation and watershed protection.
1937	The Ohio Valley floods.
1938	The Flood Control Act of 1938 reduces local cost sharing for reservoirs.
1951	The Missouri Valley floods.
1961	The Senate Select Committee on Water Resources recommends expanding the scope of water planning and confirms recreational benefits as appropriate for federal funding.
1966	The Bureau of the Budget Task Force on Federal Flood Control Policy recommends a Unified National Program for Managing Flood Losses, including flood insurance, to reduce flood losses.
1968	The National Flood Insurance Act establishes the Federal Insurance Administration.
1979	The Federal Emergency Management Agency is established.
1988	The Stafford Act guides flood recovery and mitigation practices in damaged areas.
1992	The Federal Interagency Floodplain Management Task Force publishes *Floodplain Management in the United States: An Assessment Report*.
1993	The Mississippi-Missouri Valley floods.

proach was limited to levees only. Farmers and town dwellers who had invaded the alluvial lands of the Mississippi called for control by levees. They also wanted assurance that the great barriers of earth being erected along the stream courses would not cause undue damage to areas across the channel or downstream or to the essential maintenance of a navigable channel.

As the levee system was extended and strengthened and as the channel was improved, the river flow was greatly confined. Flood stages (the heights of water in the channels) for given discharges (volumes of water) were increased. Meander belts were curbed as a levee system was completed from Cairo, Illinois, to the delta. When the great floods of 1927 poured into the valley below Cairo, they exceeded the designed channel capacity. levees ruptured, and the river breached its confined course. It spread over about 20,000 square miles, displaced more than 700,000 people, damaged at least 135,000 buildings, and took at least 200 lives.[3] As the waters receded, it was clear that the strategy of "levees only" was no longer sufficient. Attention extended to other, supplemental structural measures, such as reservoirs, fuse-plug levees, floodways, and channel improvements. Upstream forest land improvement was discussed but did not figure in plans adopted by Congress in the Flood Control Act of 1928.

Support for the other types of structures was fully incorporated into the policies set in 1936 and 1938 through which the federal government took on a larger burden of the cost and full responsibility for reservoir projects. Parallel support was authorized for soil conservation and watershed protection. This policy did not again change significantly until after a 1966 report from a Bureau of the Budget Task Force on Federal Flood Control Policy recommended an expanded approach to floodplain management, comprising a variety of measures, including flood insurance.[4] As a result, the Federal Insurance Administration and its National Flood Insurance Program were instituted in 1968, providing a basis for communities to examine how a wider range of activities, including land-use planning, flood-proofing of buildings, and integration of warning systems, might be encouraged. Progress along these lines was slow, however.

In 1991 and 1992, the Federal Interagency Floodplain Management Task Force reviewed the status of floodplain management throughout the country and published an assessment report that provided a comprehensive view of where the nation stood as of 1990.[5] That report did not lead to any immediate changes in policy or practice. The Reagan administration had abolished the Water Resources Council as a coordinating agency; there was little subsequent interest on the part of the Executive Office of the President in the assessment report. Congressional attention at the time was focused on correcting deficiencies in the emergency response program that were revealed by Hurricane Andrew and on the failure of the flood insurance program to deal adequately with mitigation. Then, the flood of 1993 gave new impetus for criticism and change.

The Flood of '93

The flooding in the upper Mississippi and lower Missouri basins from mid June through early August 1993 was caused by intense rainstorms in late June and July that came on the heels of six months of heavy and persistent rainfall. Precipitation between January and July in the affected area was 1.5 to 2 times the normal for that period.[6] In June, a stalled weather pattern caused by a strong low pressure system in the western U.S. and a large high pressure system in the southeast resulted in large amounts of rain in the upper Midwest (see Figure 1 on page 25).[7] By late June, flood storage reservoirs were at or near capacity and soils throughout the area were saturated.

Flood peak discharges exceeding the estimated 10-year recurrence interval were recorded at 154 gaging stations in the upper Mississippi River basin, and the maximum known peak discharge was exceeded at 56 gaging stations.[8] Peak discharges occurred as late as the first week in August and flooding in some areas continued into October.

Peak flood stages were higher than the previously recorded maximum stages at 73 of these 154 sites (see Figure 2 on page 26).[9] The fact that previous maximum peak discharges were not exceeded at 22 of these 73 sites is often attributable to changes in landscape, such as those imposed by the construction of levees and control structures, that allow a smaller volume of water to produce a higher flood stage. This effect is illustrated by historical discharge and stage data at selected points (see Figure 3 on page 28). Because of the short data record and changing observation methods, however, it is difficult to assign precise recurrence intervals and elevations to past flows.[10]

The flooding caused significant damage in nine states: Illinois, Iowa, Kansas, Minnesota, Missouri, North and South Dakota, Nebraska, and Wisconsin. More than 1,000 levees stretching nearly 6,000 miles in length were breached or overtopped (see Table 1 on page 29). Many others were significantly damaged. Taking into account the excessive soil moisture as well as surface overflow, a total of 487 counties (including all 99 in Iowa) were included in a Presidential Disaster Declaration.[11]

The number of people affected by this event is not certain. The American Red Cross has estimated that 56,295 family dwellings were affected in some way. Alone, it spent more than $30 million in flood relief efforts, sheltered 14,502 people in 145 shelters in the region, and served more than 2.5 million meals.[12]

Property damages from the flood have been estimated at $12 billion.[13] Disaster relief from the Federal Emergency Management Agency (FEMA) will cover about $650 million, including

$250 million for individual assistance and $400 million for public assistance.[14] By 27 September, the Small Business Administration (SBA) had received more than 16,200 applications for low-interest disaster-assistance loans from individuals and business owners and had approved $277 million worth. SBA continues to process the applications and will accept applications to provide working capital to make up for economic hardship caused by the flood for up to nine months after the peak of the disaster in July.[15]

The Federal Insurance Administration estimates that there are 88,400 policies in force in the nine states, but it is difficult to ascertain how many of these are on structures damaged by the flood. As of 30 September, the administration had received more than 10,500 claims and had processed about one-third of them for more than $72.4 million.[16]

The Federal Crop Insurance Corporation estimates that, of 122.9 million insurable acres in the affected states (statewide, not just the flooded areas), 69.7 million acres, or 56.7 percent, were insured. As of September, payments of claims for crop damages resulting from flooding and excess moisture in the upper Mississippi basin exceeded $51.7 million. More than $600 million in additional claims are expected.[17] Some losses resulted from heavy rainfall rather than flooding, and many farmers could not purchase crop insurance because they were unable to plant a crop.

Comprehensive data on the number of bridges, roads, water and wastewater treatment facilities, and other public infrastructure that were destroyed or damaged by the flood are not available. The suspension of the Des Moines, Iowa, water treatment plant received major media attention, but many smaller operations were also seriously affected.

The Impact on Individuals

In looking at these aggregate numbers, it is important to remember that the flood did not affect the Midwest, per se; rather, it affected thousands of individuals. Even though television news no longer brings news of the flood into people's homes every night, it is still a very big story. Take, for example, the plight of an individual family of townspeople who were victims of this flood. How were they affected?

An Urban Family

When the levee broke, the family's house was inundated up to eight feet deep. Initially, the family went to a public shelter, although others went to stay with a luckier neighbor whose house sat on dry land. When the flood receded, the family returned to discover their home a sodden, uninhabitable mess. They had no potable water because the community's water treatment plant was put out of service by the flood. The local health inspector issued notices that flooded buildings had to be tested for molds and fungus and alerted residents to be aware that the waters that had swept through their town carried pesticides and other toxic substances in concentrations that approached permissible contaminant levels.

The local building official told the family that their house was "substantially damaged" and that, before they moved back in, it would have to be elevated. The family had not purchased flood insurance (none of their neighbors had ever thought the levee would break), so they looked to disaster assistance to help them recover. They were interested in moving out of the area, but, for the time being, the only assistance was a check from FEMA for temporary housing to stay in a hotel for a while and an Individual and Family Grant for $11,900. They were told they could use the grant to flood-proof some items in their house—for example, they could put the furnace and water heater on the second floor—but this was not enough money to elevate the structure plus clean or replace the siding, furniture, and carpeting. So, they cleaned up as well as they could and received permission to move back into their house

TABLE 1
PRELIMINARY ESTIMATES OF DAMAGE TO LEVEES IN THE MISSISSIPPI RIVER BASIN IN 1993

Designation	Eligible for federal assistance[a]	Total number of levees	Number of levees damaged[b]	Percentage of levees damaged
Federally constructed and maintained	Yes	15	3	20
Federally constructed and locally maintained	Yes	214	36	16.8
Subtotal for federally constructed		229	39	17
Not federally constructed and locally maintained	Yes	268[c]	164	61.2
	No	1,079[d]	879	81.5
Subtotal for not federally constructed		1,347	1,043	77.4
Total		1,576	1,082	68.7

[a]Eligible levees meet the requirements for assistance under Public Law 84-99. Ineligible levees either do not meet those requirements or did not have an application for assistance submitted for their repair. However, some levees that are ineligible under Public Law 84-99 may be eligible for assistance from the Soil Conservation Service.

[b]*Damaged* means that the levees were breached or overtopped. There may be other levees that were damaged without being breached or overtopped.

[c]These levees together stretch for some 1,800 miles.

[d]These levees together stretch for some 4,000 miles.

SOURCE: Department of the Army, U.S. Army Corps of Engineers, Civil Works, "Tabulation of Levees" (Washington, D.C., 12 August 1993).

on a temporary basis until the city decides whether it will buy out the properties in this neighborhood.

The city is puzzling about how to do this. City officials do not know if the levee will be repaired. The city does not have funds to match the federal grant that might be available for a buy-out. Even if it found the money, however, it likely would not be enough to compensate the family adequately to find a new home; property values in other parts of town are higher. Equally important, the city lacks an employee with the expertise to carry out a program to acquire and relocate flood-damaged properties.

The full, traumatic effects of the fight against the levee break, the evacuation, and the tiring search for recovery are impossible to calculate in the short run. Some consequences will only be recognized as solutions of some kind evolve over months of searching.

It is possible that, at some point in the future, a review of alternative flood protection strategies may make adequate funds and expertise available to the community to buy out this family's house and move them to a new area. That could be months or, more likely, years from now. By that time, the family probably will be re-established in its former location and may have little desire to uproot and move. It will be tempted to argue that a flood like the one in 1993 probably will not happen for another 100 years.

Alongside the experience of towns that were flooded by levee breaks must be placed the arguments of officials in Davenport, Iowa. They believe their city wisely refused to build large levees, in contrast to Rock Island, Illinois, across the river. Davenport had adjusted its land use with a riverside park and waterfront gambling boats and had designed buildings to minimize potential flood losses. Thus, the flood's costs to the city were lower than what the city would have paid for levee construction and for restricted riverfront access.

A Rural Family

Now, consider the situation of a farm family that, for decades, cultivated 250 to 300 acres of rich alluvial soil in bottoms along the lower Missouri and now operates a consolidated farm several times that size. The waters overtopped a levee and flooded the land for the first time since the embankment was strengthened 50 years ago.

The increased high-velocity flow washed soil out of some land, deposited coarse material across one low area, and left a further layer of fertile silt in another stretch. The corn crop was ruined. Drainage ditches were clogged. Debris was deposited in a few low places and along fence and tree rows. The family had worked night and day to strengthen levees as the waters had risen in the stream channel and then to evacuate livestock, people, and especially valuable equipment and goods when it seemed likely that their defenses would fail. The dwelling and major barns were inundated to depths of 3 to 10 feet, and it was 30 days before they again were accessible by trucks on muddy roads.

The family collected $70 per acre in crop insurance for which it paid an annual premium of $10 per acre. The neighbor's claims varied according to the duration of and damage done by the flood. The initial costs of flood fighting, evacuation, temporary shelter elsewhere, restoring operations, repairing damaged facilities, replacing lost property, and applying for indemnification or assistance were painfully apparent and difficult to estimate precisely.

Deciding what the family should do beyond recovery raises troublesome questions. Should they seek, with other members of the levee district, to have the levee rebuilt at the previous height and accept the risk of its failing again after another unusual precipitation event? That judgment would be affected by whether levees across the channel or up- or downstream are being raised, lowered, or abandoned. Whatever the levee protection, the family must decide whether it would be desirable to elevate or otherwise flood-proof any of the farm structures to make them less vulnerable to damage in the next flood. Could some or all of the area be left unprotected from floods and dedicated to hunting and fishing in the natural habitat, thereby increasing to some unspecified degree the flow capacity of the channel?

There are no easy, general answers to these questions. The floodplain differs in soils, vegetation, flood vulnerability, and drainage from one reach to the next. It is affected by improvements to the navigation channel and by the height and configuration of the levees. Stream discharge is influenced in a number of ways by upstream precipitation, land use, and reservoir storage. Farm management in the floodplain also varies greatly.

The Repair/Rebuild Dilemma

When response activities to any disaster turn to long-term recovery operations, conventional wisdom suggests that people should go about rebuilding and reconstructing in a way that reduces the likelihood of significant damage from future similar events. In this case, two major dilemmas have arisen that serve as poignant examples of why conventional wisdom is not always followed: how to deal with the reconstruction of thousands of damaged buildings and what to do with all of the broken levees that have left hundreds of square miles of floodplain without structural flood control protection.

In regard to damaged buildings, many local codes require structures damaged beyond 50 percent of their value to be rebuilt in compliance with the minimum standards of the National Flood Insurance Program, which state that the lowest floor must be at or above the level of the 1-percent chance flood. This requirement often presents an overwhelming economic burden on victims who must struggle just to replace what

they had prior to a flood, much less to absorb the cost of elevation or relocation.

As for the more than 1,000 damaged levees, many of them were locally owned and operated and are not eligible for federal reconstruction assistance. Many were designed and built to provide protection only from frequent flood events. That they were overtopped or failed last summer should have surprised no one.

The Opportunities

There are opportunities, however, to rebuild in a safer manner. For example, reports from postdisaster mitigation teams indicate that as many as 200 communities may be interested in acquiring and relocating or demolishing their structures that were substantially damaged.[18] FEMA is focusing the use of its Section 404 Hazard Mitigation Program grant funds—an estimated $45 million, which must be matched by the recipients on a 50/50 cost-sharing basis—on acquisition and relocation projects and also has funds available to provide technical expertise to communities wishing to undertake such projects.[19] Lessons from past experience with acquisition and relocation projects for substantially damaged structures provide much guidance on how to ensure the success of such efforts. If these lessons are applied, the wheel does not have to be reinvented.[20] Several other financial assistance programs exist that can be used to help fund mitigation projects for substantially damaged structures, including SBA disaster assistance loans, various FEMA disaster assistance programs, Housing and Urban Development grant and loan programs, and state housing and development finance authorities.

Opportunities for changing "business as usual" for levee reconstruction also exist. To facilitate the search for appropriate alternatives, the Office of Management and Budget (OMB) issued guidance on 23 August for the establishment of an unprecedented review procedure to assess strategies for levee reconstruction.[21] The agencies involved in this review include FEMA, the Army Corps of Engineers, the Soil Conservation Service, the Fish and Wildlife Service, and the Environmental Protection Agency as well as state and local government agencies and other interested organizations. OMB's short-term policy guidance calls for the agencies' representatives to consider nonstructural alternatives to levee repair that would benefit both flood control and natural resource protection. The implication for FEMA's disaster field offices is that the interagency team is reviewing each application for levee repair and trying to determine whether a nonstructural alternative is appropriate for that levee.

The White House has called for a broader review of alternatives—one that looks at the entire upper Mississippi and lower Missouri watershed.[22] In late August, the White House and the Office of Management and Budget established a new task force to evaluate and review the procedures for repairing and restoring levees. The same offices are taking steps to prepare, by February 1994, recommendations for further action.

The Association of State Floodplain managers and the Association of State Wetland Managers have also furthered the debate by sponsoring two major conferences among interested citizens and government officials in August and September in St. Louis, Missouri.[23] On 30 and 31 August, representatives of the nine states affected by the flood, federal agencies, environmental organizations, the White House, and Congress gathered to share information on postflood recovery activities as well as to identify opportunities to help communities and states recover in a way that would prevent a future similar event from causing such extensive damage. The three key issues addressed at this meeting were substantially damaged structures, levee reconstruction, and community recovery planning. The second, follow-up meeting was held on 27 through 29 September. Discussions at this meeting focused primarily on agricultural concerns related to the flood and on opportunities for the restoration of wetlands. Although much of the background information and issues discussed during the conferences had already been appraised by the leaders of the associations in the year before the floods,[24] the body politic had adopted no plan or policy as to what to do next.

Overcoming the Dilemma

Although interest in the acquisition and relocation of flood-damaged structures is unprecedented and the consideration of alternatives to levee reconstruction—under the leadership of the White House—is a pioneering effort, problems do remain. For instance, there is a continuing, critical need for better public awareness, training, and education about disaster relief programs and mitigation options. Local officials who are caught up in day-to-day immediate response and recovery activities are often unfamiliar with long-term mitigation assistance programs. These programs take considerable planning effort, and most communities have not learned a lesson from other communities hit by disaster—the lesson that pre-event planning for recovery clearly pays off afterwards.

Mitigation work is also hampered by the conflicting goals of the short- and long-term disaster assistance programs. Initial disaster assistance enables people to get back on their feet and thus makes them less likely to support more comprehensive programs, such as acquisition or relocation, at a later date. If interest does exist, slow processing of applications for projects eligible for hazard mitigation funds from FEMA often causes people to lose interest and become unwilling to participate.

As for the levees, the interagency teams considering their reconstruction or repair are having difficulty striking a balance between the need to restore flood protection quickly and the need for long-term planning for alternative flood protection that incorporates the concerns of sound eco-

system management. This is particularly problematic because the review procedure outlined in the Office of Management and Budget's directive[25] on levee repair does not match well with existing statutes and regulations under which the Army Corps of Engineers and the Department of Agriculture carry out such efforts. Because the current flood control strategy in the country is biased toward structural solutions, programs for viable alternatives and guidance on how to finance and implement them are not well formulated. Policy options suggested by federal agency headquarters or other executive offices may not be carried out in the field simply because adequate information to do so does not exist. Nor is the appropriate level of rigor for the cost-benefit analyses of alternatives clear. How are downstream impacts considered; how is future loss accounted for; how are other government expenditures, such as subsidies to farmers to forgo planting crops, incorporated into the equation; and how are environmental benefits quantified?

Recognizing Floodplain Values

Over the past three decades, several streams of thought have converged to shift both popular and technical views of floodplains. The limitations of engineering measures to restrict and channel river flow have been recognized more clearly. The uncertainties inherent in water engineering have been demonstrated along the Mississippi by the ways in which levees have increased flood stages. Levee failures have begun to be viewed as the river reclaiming its natural terrain.

During the same period, the significance of wetlands and floodplains in providing distinctive habitat, soil conditions, water storage, and ground- and surface-water quality was established in the scientific and political arenas. This significance was appraised in *Restoration of Aquatic Systems: Science, Technology, and Public Policy*, a 1992 report by a committee of the National Research Council.[26] That document summed up the state of knowledge of the interrelations of physical, biological, and social factors in wetlands, including floodplains. The overall opportunities for wetland restoration had already been brought to national attention by the controversy over the federal policy of [redacted] "no net loss" of wetlands and the accompanying issue of how to define what is a wetland.[27] For the first time, questions of habitat diversity and function came to be widely considered in association with questions of watershed hydrology and sedimentation, multiobjective river management, and land-use plans along stream channels.

These various aims now are reflected in an uncoordinated set of federal and loosely related state and local initiatives. The National Park Service assists in planning rivers and trails projects. The Environmental Protection Agency supports a Watershed Planning Program and seeks to link it with provisions of the Clean Water Act. Under the Soil Conservation Service, there is a Wetlands Reserve Program. Within the Department of the Interior, there are several programs dealing, at least in part, with waterfowl management, including Partners for Wildlife, the Waterbank Program, and the Land and Water Conservation Fund. The Army Corps of Engineers also has authority to support environmental improvements and is undertaking major studies in that direction.[28] Some of these agencies work closely with nongovernmental organizations such as The Nature Conservancy. The program's effectiveness would be greatly enhanced by early prioritization, in terms of location and timing of wetlands for restoration. Such prioritization would facilitate attainment of the programs' goals and eliminate much of the ambiguity as to which wetlands—mainstream floodplains, tributary floodplains, upland marsh areas, potholes, and the like—would be targeted for early treatment.

These deepened scientific understandings and broadened views of the ecological linkages have fostered an unprecedented growth of concerned citizen organizations at the local, state, interstate, and national levels. Appeals for action have been strong and pointed from a variety of traditional environmental organizations: American Farmland Trust, American Rivers, Environmental Defense Fund, Environmental Law Institute, Izaak Walton League, National Fish and Wildlife Federation, Sierra Club, and World Wildlife Fund. Newer groups, such as the Coalition for the Restoration of Coastal Louisiana and the Coalition to Restore Urban Waters,[29] are addressing related problems of wetlands' values in less conventional ways.

A call for action along broader lines, incorporating agricultural and conservation goals, was issued in August by the Upper Mississippi River Conservation Committee.[30] Its call, representing the states in the upper basin, was for an unprecedented level of environmental restoration. Many other citizen groups are also becoming involved. The major significance of these multiple initiatives is that they are moving in roughly converging directions and, for the first time, show signs of harmonious action with urban and rural groups involved in addressing other values in floodplain management. Thus, the alternative of wetland management has emerged as practicable.

The Need for Mitigation

In a similar vein, the concept of mitigating damages from disasters has gained full currency over the past few decades. There is now a well-established consensus that the disaster cycle of preparedness, response, and recovery must include the fourth component of mitigation. This component ensures that damaged facilities are not automatically repaired and replaced to their pre-event status; rather, they are removed, so far as is practicable, from harm's way or reconstructed in such a way as to avoid future damages.

Federal policy has done much to promote the concept of mitigation, especially immediately after a disaster, when awareness of the problems that hazards present is high and political support to correct deficiencies in existing programs is strong. For example, since 1988 when the Stafford Act[31] was passed, the federal disaster relief assistance available to communities has included funds needed to repair or replace damaged public structures in a safer (and often more expensive) manner. Since the early 1980s, there has been a concerted effort made by federal interagency hazard mitigation teams to identify opportunities for mitigation in communities that have just experienced a major disaster.[32]

Unfortunately, no systematic assessment has been made to track the effectiveness of the teams or to determine the outcome of the recommendations they make immediately after disasters. Also unfortunately, the push for mitigation seems to be at its peak only when disasters occur. Although some agencies such as FEMA work consistently during both disaster and nondisaster times to promote mitigation (and James Lee Witt, the new director of FEMA, has announced that mitigation would be his central concern),[33] other local, state, and federal agencies, many citizens, and Congress appear content to let hazards and the need for mitigation fade into the background soon after an event occurs.

Marshaling Government

In light of the decisions that have been made regarding the human occupation and development of the Mississippi watershed that led to the summer's flood and the dilemmas it has presented, the challenge that lies ahead is clear. Disasters such as the flood of '93 cannot be considered impossible or highly unlikely; rather, they must be viewed as a reality.

Although the early studies by Humphreys and Abbott looked to a system of levees for which the local landowners would carry the financial burden, the evolution of commitments and activities has blurred public concepts of what is an effective national strategy for dealing with floods and where responsibilities should rest among property owners, local governments, states, and the federal agencies. The "levees only" policy has been demonstrated to have severe limitations. Some floodways and reservoirs have also proven inadequate in coping with great floods. Although the concept of unified floodplain management has received endorsement in theory,[34] it is far from being realized in practice. One striking example of this problem may be seen in how FEMA's National Flood Insurance Program, which was intended to promote such management, has instead encouraged uneconomic reconstruction and new building in the floodplain with insurance coverage and how disaster assistance has in some instances abetted it. Another example is how the federal government has provided grants for building public facilities, such as water treatment plants, in flood-prone areas. Natural values of floodplain environments are given lip service but little concrete support. For example, landowners receive little technical advice about how they can use wetlands instead of engineered protection.

A key consideration in the near future is timing. Can the concern to recover promptly be reconciled with the need for further scientific and technical studies and with the need to forge stronger private and government instruments to carry out the desired actions at the community level? One possible strategy relies on the recognition that the next potentially damaging flood might come next year or might not occur for decades. Its recurrence is certain, but its timing is uncertain. Under these circumstances, the federal government might institute new provisions of crop and flood insurance to indemnify property owners behind unrepaired levees against any damage they might suffer from a flood until such time as a decision is made whether to rebuild the levees to previous levels. Thus, the breathing space required for developing alternative programs could be supplied at little or no cost to the taxpayer and at little or no financial risk to the floodplain occupant.

The Months Ahead

If the work of the White House's new task force is to lead to truly constructive action, its appraisal of options to use and preserve the natural resources of the area must be supplemented with a set of hard-headed suggestions as to how current procedures and programs can be revised to reach those aims. In developing these suggestions, the task force must also address the interrelationship between hazards and the myriad decisions made on a daily basis at the individual, local, regional, and national levels. The nation's strategy for mitigating damages from disasters should not be driven by its disaster relief policy.

In the next year or two, the national approach to coping with the flooding may not change at all; disaster assistance, insurance offerings, and the current practices of federal agencies may have altered little. That is one extreme. At the other, a vision of a new harmony in the aspirations for the Mississippi basin and for other basins around the country might emerge. In addition to sharing that vision, the task force might find practical ways to help put it into effect. Such a vision might regard hazards not as single, rare events but, rather, as part of a continuum wherein the resiliency of natural and social resources is tested.

In between these two extremes, there might well be a few major improvements that fall short of a full reorientation of policy and programs. The current congressional review of legislation affecting property insurance is likely to lead to helpful changes in procedures affecting requirements for federal financial assistance. For example, if lending institutions were penalized for not requiring property buyers to purchase

flood insurance for flood-prone property as a condition for receiving a mortgage, more properties would be insured. Also, more buyers would be forewarned of the risk of flooding and so could choose not to buy. In either case, the need for federal disaster relief assistance would likely decrease. In addition, FEMA's commitment to mitigation may be expressed in operating rules that will reduce vulnerability before the next disaster strikes.

Other steps outlined in the Federal Interagency Floodplain Management Task Force's assessment report and its companion, *Action Agenda for Managing the Nation's Floodplains*,[1] might be adopted (see the box on page 02). Those several actions would together mark a significant advance.

It is not unduly sanguine to expect that scientific and public support may be marshaled for a series of executive orders or administrative agreements that would promote comprehensive state floodplain management planning; steer federal activities in harmony with that planning; establish broad priorities for wetland restoration; strengthen coordination of federal agencies' efforts to assess the vulnerability of public facilities and preparedness and flood-proofing measures; and step up education and training relating to the nature of flood hazards and natural values of flood-

RECOMMENDATIONS FOR FLOODPLAIN MANAGEMENT

In 1992, the Federal Interagency Floodplain Management Task Force published an assessment report on the status of the United States' floodplain management. Before the report was published, the task force invited a panel of independent experts to review the report. The following is a list of recommendations put forward by the task force and the panel.

To integrate flood loss vulnerability and protection of floodplain natural values into broader state and community development and resource management processes,

- vigorously foster the preparation of state floodplain management plans, involving both public and private interests and, where appropriate, interstate agreements;
- require preparation of state comprehensive floodplain management plans as a condition for continued participation in the National Flood Insurance Program;
- prepare an executive order requiring that new federal investments, regulations, and grants-in-aid be consistent with state and local floodplain management plans that conform to federal standards; and
- adjust tax codes to discourage building in flood-prone areas.

To improve the database for floodplain management,

- remap the nation's floodplains, where appropriate, to take into account potential changes in hydraulic conditions associated with full development of the drainage areas under existing land-use plans;
- establish a cooperative, jointly funded program by the National Science Foundation and interested federal agencies to develop methods for mapping, regulating, and identifying natural values in areas with special flood hazards;
- develop an accurate, affordable, national system for gathering flood loss data; and
- fund research to examine, in a selected sample of communities, the full benefits and costs of floodplain management measures.

To give weight to local conditions,

- without loosening the limits on permissible vulnerability, examine the practicability of using performance standards for the preservation, use, and development of floodplains;
- further experiment with the National Flood Insurance Program's community-rating system to encourage communities to adopt a variety of flood hazard mitigation measures, such as zoning, particularly suited to their local circumstances; and
- redesign local zoning and subdivision regulations and building codes to contribute to the management of floodplains' natural resources.

To minimize conflicts and gaps among federal programs,

- establish an independent task force to continue to review and recommend changes in the current Unified National Program for Floodplain Management.

To reduce vulnerabilities,

- prepare assessments of the vulnerability to flooding of a sample of facilities built with federal aid;
- fund research on techniques for estimating benefits and costs to encourage local agencies to improve flood preparedness and retrofitting;
- assess existing aging flood control structures and make recommendations for sustainable improvements or replacements;
- improve land-use regulations to reduce encroachment onto floodplains downstream of dams;
- assess alternative designs to channel modification that include less straightening of channels, employ more gradual slopes, and use natural vegetation or riprap rather than concrete-lined channels;
- assess pre-existing storm water networks and make suggestions for alternatives such as on-site retention, natural drainage systems, and zero-increment runoff for new development;
- establish positive tax incentives for the preservation and restoration of floodplain resources; and
- provide incentives and technical and financial assistance for land treatment measures, such as maintaining trees, shrubbery, and vegetative cover; terracing; slope stabilization; grass waterways; contour plowing; conservation tillage; and strip farming.

To improve professional skills and public education,

- develop training programs and conduct regional training, at an affordable rate, for appropriate government personnel;
- expand and evaluate efforts to inform and educate the public about flood hazards and flood management; and
- improve documentation and quantification of the values of natural floodplains to improve public understanding of possible needs for protecting those values.

SOURCES: Federal Interagency Floodplain Management Task Force, *Floodplain Management in the United States: An Assessment Report* (Washington, D.C.: FEMA, 1992); and Natural Hazards Research and Applications Information Center, *Action Agenda for Managing the Nation's Floodplains*, special publication no. 25 (Boulder, Colo.: Natural Hazards Research and Applications Information Center, 1992).

plains. These goals could be achieved without major new legislation, but their achievement would be accelerated if federal agencies were allowed more flexibility in how they allocate available disaster relief funds. The long-term benefits would extend far beyond the Mississippi basin.

In less than two centuries, the nation has moved slowly, often by trial and error, from a belief that levees could surely protect humans and their built environment to a recognition that the built and managed environment must be more open to accommodating its natural components. The need to integrate the nation's disaster response and relief policies more closely with broader environmental and economic policies is now accepted. Events like the flood of '93 offer an opportunity to speed the formation of sounder policy. This opportunity should not be squandered.

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20. See, for example, Minnesota Department of Natural Resources, *Reducing Flood Damages by Acquisition and Relocation: The Experiences of Four Minnesota Communities* (St. Paul, Minn.: Department of Natural Resources, 1980); R. M. Field, *State and Local Acquisition of Floodplains and Wetlands: A Handbook on the Use of Acquisition in Floodplain Management* (Washington, D.C.: U.S. Water Resources Council, 1981); R. J. Burby and E. J. Kaiser, *An Assessment of Urban Floodplain Management in the United States: The Case for Land Acquisition in Comprehensive Floodplain Management* (Madison, Wisc.: Association of State Floodplain Managers, 1987); and U.S. Department of the Interior, *A Casebook in Managing Rivers for Multiple Uses* (Washington, D.C.: National Park Service, Association of State Wetland Managers, and Association of State Floodplain Managers, 1991).

21. Executive Office of the President, Office of Management and Budget, "Procedures for Evaluation and Review of Repair and Restoration Projects for Levees," memorandum (Washington, D.C., 23 August 1993).

22. U.S. Environmental Protection Agency, Office of Federal Activities, *Draft Programmatic Environmental Impact Statement (PEIS) Addressing Long-Term Recovery from the Great Flood of '93* (Washington, D.C.: U.S. EPA, 24 August 1993).

23. The Association of State Floodplain Managers (P.O. Box 2051, Madison, Wisc., 53701-2051) is distributing a summary of the first meeting's discussions. A summary of the second meeting is being distributed by the Association of State Wetland Managers (P.O. Box 2463, Berne, N.Y., 12023). A great deal of information was made available at these meetings, including D. Hey, "Wetlands: A Strategic National Resource," *National Wetlands Newsletter 7*, no. 1 (January-February 1985):1–2; J. Kusler, "Post Disaster Response and Recovery in the Mississippi Basin and the Restoration of Floodplain and Wetland Areas," in *Proceeding of the Second Workshop on Post-Flood Recovery and the Restoration of Mississippi Basin Floodplains Including Riparian Habitat and Wetlands* (St. Louis, Mo.: Association of State Wetland Managers, September 1993), 1–7; and A. Riley, "Background on National Efforts to Manage Flood Losses and Proposed Strategies for the Future Management of the Mississippi River Basin," in *Proceeding of the Second Workshop on Post-Flood Recovery and the Restoration of Mississippi Basin Floodplains Including Riparian Habitat and Wetlands* (St. Louis, Mo.: Association of State Wetland Managers, September 1993), 23–28.

24. J. Kusler and L. Larson, "Beyond the Ark: A New Approach to U.S. Floodplain Management," *Environment*, June 1993, 6.

25. Executive Office of the President, Office of Management and Budget, note 21 above.

26. U.S. National Research Council, Committee on Restoration of Aquatic Ecosystems, *Restoration of Aquatic Ecosystems: Science, Technology, and Public Policy* (Washington, D.C.: National Academy Press, 1992).

27. J. Kusler, "Wetlands Delineation: An Issue of Science or Politics?" *Environment*, March 1992, 6.

28. The Army Corps of Engineers is authorized to repair certain damaged levees under Public Law 84-99, but it has broader authorization to assist in a number of ways in wetlands preservation and restoration. Major authority for environmental measures was provided by the Water Resources Development Act of 1990 and by Public Law 99-662 of 1986 (the Upper Mississippi River Management Act of 1986). The Army Corps of Engineers has been more vigorous in undertaking appropriate studies, such as on wetland mitigation banking, than Congress has been in appropriating funds.

29. Mark Davies, executive director of the Coalition for the Restoration of Coastal Louisiana, statement made at a meeting of the Association of State Wetland Managers, St. Louis, Mo., 27–29 September 1993.

30. Upper Mississippi River Conservation Committee, "The Upper Mississippi River: America's River Faces Its Greatest Threat (St. Louis, Mo., August 1993).

31. The Robert T. Stafford Disaster Relief and Emergency Assistance Act, Pub. L. 100–707, 23 November 1988.

32. Federal Emergency Management Agency, *Post-Disaster Hazard Mitigation Planning Guidance for State and Local Governments*, DAP-12 (Washington, D.C.: FEMA, September 1990), 24.

33. J. L. Witt, memorandum for participants of the Natural Hazards Workshop, Boulder, Colo., 28 July 1993.

34. Natural Hazards Research and Applications Information Center, *Action Agenda for Managing the Nation's Floodplains*, special publication no. 25 (Boulder, Colo.: Natural Hazards Research and Applications Information Center, 1992), 2. This agenda was compiled by a committee of independent experts who reviewed a draft of the Federal Interagency Floodplain Management Task Force's assessment report (see note 5 above) at the task force's request.

35. Ibid.

The figures discussed in this article and commentary on the article will appear in the December 1993 issue of ENVIRONMENT.

PREPARED STATEMENT OF JERRY B. UHLMANN, DIRECTOR
MISSOURI STATE EMERGENCY MANAGEMENT AGENCY

TESTIMONY TO U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT

HEARING TO EXAMINE FEDERAL RESPONSE
TO MIDWEST SUMMER OF '93 FLOOD DISASTER

OCTOBER 28, 1993

PREPARED STATEMENT OF JERRY B. UHLMANN

Mr. Chairman and members of the Committee, on behalf of Governor Carnahan, I appreciate the opportunity to testify at this hearing today on the federal response to the "Great Flood of '93" in Missouri.

This catastrophic flood event represents Missouri's worst natural disaster, and has been commonly acknowledged as the single worst flood event in our nation's history. The flooding in Missouri set new records by virtually every measure - in terms of overall damage inflicted, duration of the disaster, scope of the flooding, lives lost, total victims affected, number of emergency personnel deployed and scores of other factors which clearly distinguish this calamity as unprecedented in our state's history. However, we can all take much comfort in the fact that the overall impact of this catastrophic event would have been far greater, were it not for the presence of effective emergency management programs at the local, state and federal levels Together, they functioned effectively in a coordinated manner during both emergency response phases and recovery operations. Such cooperative and coordinated efforts served to alleviate suffering and protect the lives and property of thousands of Missourians who otherwise would have been more severely affected by this great disaster. The "Flood of '93" has proven time and time again that the systems we have in place for emergency management can work well against any catastrophe, whether natural or technological, when federal state, and local agencies join together to "get the job done." And as we all witnessed during massive coverage by the news media, emergency responders in all the flood affected states were bolstered by thousands of volunteers, both local and from outside areas, who worked for weeks to help place millions of sandbags, and assist in numerous other emergency response and recovery operations. These "helping hands" reaching across all of Mid-America undoubtedly saved many lives and millions of dollars in property as well.

SUMMARY OF EVENTS AND CONTRIBUTING CONDITIONS

Any analysis of the "Flood of 93" would be remiss without linking this disaster to earlier flooding which Missouri experienced in the early spring. "The gun was loaded," so to speak, when heavy rains fell along much of Eastern Missouri, beginning April 10th and continuing through much of May. As a result, Missouri experienced serious flooding initially along the Mississippi River in St. Charles and Lincoln counties, resulting in evacuations for several hundred homes. Governor Carnahan declared a State of Emergency on April 28th, and on April 30th asked President Clinton to issue a federal disaster declaration for the impacted area. The President responded with a federal declaration

for Individual Assistance on May 11, 1993, which ultimately included eight counties in Eastern Missouri.

Responding to this early spring flood, the Federal Emergency Management Agency (FEMA) mobilized quickly for this declaration, providing staffing through both FEMA national and the agency's Region VII office in Kansas City. A Disaster Field Office was opened in Earth City, MO., which was operated jointly by personnel from FEMA and the Missouri State Emergency Management Agency. In this initial flood disaster, some 1,200 flood victims within the eight counties applied for various forms of state-federal assistance to help them recover from the onslaught of the storms. On May 24th, as the Mississippi River receded below flood stage, emergency conditions subsided and as a result, the federal declaration was closed out on that date.

As FEMA and my agency continued to process disaster assistance claims from the early spring flood, heavy rains began once again to impact the Mississippi River, starting on June 10th. On July 1st, Governor Carnahan issued his second State of Emergency and at his request, President Clinton declared Missouri eligible for federal assistance on July 9th. By the end of that day, 49 counties and the City of St. Louis were included under the President's declaration for Individual Assistance.

The severity of this flood and its potential for destruction was fully recognized by the Governor's Office, SEMA, FEMA, and local officials in communities along the Mississippi River in the path of the rising floodwater. The State Emergency Operations Center began 24-hour staffing on July 2nd, maintaining ongoing contact with flood affected communities all summer throughout the duration of the emergency response phase. On July 13th, heavy rains returned to the region and at this point, some 30,000 people were affected by the Mississippi River flooding throughout the Midwest states.

By mid-July, monsoon-like rains in Kansas, Nebraska, and other upper Midwest states began to take their toll on the Missouri River basin, compounding emergency conditions. The flood threat was thus extended along this river and its tributaries, from northwest Missouri through the center of the state and into eastern Missouri, where the Missouri joins the Mississippi at St. Charles. The flooding thus impacted major metropolitan areas, such as Kansas City, St. Joseph, Jefferson City, St. Louis, and scores of smaller river communities.

By late July, the flooding was at or near its peak in many communities, triggering other disasters which affected thousands of Missouri residents. Floodwater from the Missouri River forced the shutdown of a major water plant in St. Joseph on July 24th, leaving some 80,000 area residents without water. In one of the most emotional aspects of the flood in our state, the Missouri River

flooded a cemetery at Hardin in Ray County, washing out some 750 caskets which were swept away by the floodwater.

By July 30th, our flood-weary state was reeling from a series of disaster events. Our State Capitol was cut off from the north due to flooded sections of U.S. 54/63 leading across the Missouri River Bridge. In St. Louis, flood-threatened propane tanks forced the evacuation of some 11,000 residents. That same night, the Monarch levee at Chesterfield was breached by the Missouri River, flooding the Spirit of St. Louis Airport and some 350 businesses, and forcing the evacuation of the St. Louis County prison facility at Gumbo. Portions of U.S. Highway 40 were also flooded, cutting off a major traffic artery in the St. Louis area and thereby creating severe traffic problems for several weeks.

These serious incidents represented some of the most severe and challenging emergency response issues for state, federal and local responders throughout the flood event. I will refer to FEMA's crucial assistance in response to these emergencies in more detail in later portions of my testimony.

Because of high river stages and rain-soaked soil conditions all summer, Missouri was destined to live through yet another round of flooding early this fall. Drenching rains from slow-moving thunderstorms inundated the state from September 14-18, 1993. The fall storms brought severe flooding to previously unaffected porions of our state, including Springfield. These rains, which raised river levels above flood stage and caused more flash flooding, prompted the addition of 15 counties to Missouri's federal disaster declaration for Individual Assistance, at Governor Carnahan's request. This impacted area includes portions of southeast, south central and southwest Missouri.

At this point, 101 Missouri counties and the city of St. Louis are included in the federal declaration for Individual Assistance. Seventy nine counties and three cities are under the declaration for Public Assistance. Ten counties are being considered as add-ons for Public Assistance.

The "Flood of '93" has claimed at least 31 lives in Missouri and caused an estimated $3 billion in overall damage, including nearly $2 billion in losses to Missouri's agricultural industry. More than 600 levees were breached or overrun by floodwater, and some 3.1 million acres flooded. As of September 30th, FEMA had projected a total of $250 million in federal assistance dollars for Missouri. These funds include:

- **An estimated $102 million for Individual Assistance programs.**

- An estimated $113 million for Public Assistance to repair damage to infrastructure.

- Some $10.8 million for the hazard mitigation grant program.

- A projected $6.7 million for the federal mission assignments

- An estimated $19.4 million in federal administrative costs.

In terms of disaster assistance to individuals, families and businesses adversely affected by this catastrophe, more than $143 million in state-federal assistance programs has been approved to date. These major assistance categories are:

- More than $100.4 million in low interest disaster loans to 2,367 homeowners and renters, and 531 businesses by the U.S. Small Business Administration.

- More than $32.9 million for disaster housing assistance from FEMA for 13,597 eligible applicants.

- More than $9.8 million approved for Individual and Family Grants for 7,500 applicants to cover disaster related needs and expenses not covered by other programs.

As we all know, the impact of the "Flood of '93" in Missouri is far from over. Currently, some 1,600 homes statewide remain inaccessible due to continuing flood conditions. Assistance to these families is being provided through the temporary housing program. Recovery operations in our state are expected to last three to five years and, in many cases, represent challenges greater than the response to the flood threat itself.

MISSOURI'S EMERGENCY MANAGEMENT PROGRAM AND STATE RESPONSE EFFORTS DURING THE FLOOD

The Missouri State Emergency Management Agency (SEMA) is responsible for maintaining the state's disaster preparedness program under an all-hazard capability. SEMA coordinates the state's response to any type of emergency, whether natural or man-

made, anywhere in the state. In large-scale disasters which overwhelm the capabilities of local community responders, SEMA coordinates state response efforts with the affected local communities, other state government agencies, and federal and private sector organizations, such as the Red Cross.

For years, SEMA has maintained a State Emergency Operations Plan (SEOP) which outlines the primary and secondary responsibilities of this agency and other state government responders to a disaster. The SEOP was utilized successfully in previous Presidential declared flood disasters, including the "Flood of '86," and localized flooding in the spring of 1990. The State Emergency Operations Plan was fully revised and updated in Fiscal Year 1992 and is currently undergoing another revision to coincide with SEMA's move to its new State Emergency Operations Center just east of Jefferson City. The $4.2 million state-of the art facility is nearly completed and the agency plans to move to the new headquarters early next year.

Prior to the "Great Flood of '93," both state and local government agencies in Missouri were well-versed in flood-fighting and emergency response measures. This is a direct result of hands-on experience with periodic severe flood disasters along our major rivers and tributaries. Also, FEMA has made available specialized training through the State Emergency Management Agency for local emergency management and public officials. These invaluable training programs are offered to local governments in the form of courses through the SEMA Training Section, as well as seminars and workshops, our annual Statewide Conference on Emergency Management, and FEMA's Emergency Management Institute at Emmitsburg, MD. They are all designed to reinforce the role of local governments as the first line of response to disasters in their community, and the need for a coordinated response between local, state and federal governments when local capabilities are overwhelmed, as in the "Flood of '93."

Through much of the 1980s' and early '90s,' Missouri was committed to developing enhanced state and federal response capabilities to a catastrophic disaster - namely a severe earthquake along the New Madrid Fault. In addition to the serious repercussions from the earthquake potential, catastrophic events such as the Loma Prieta earthquake and Hurricane Hugo in 1989, the Andover, Kan. tornadoes in 1991, and Hurricane Andrew and Iniki in 1992 dramatized the need for both national and state level capabilities to respond to this "new breed" of catastrophic event. Utilizing the earthquake threat scenario, Missouri State Government joined with FEMA in a series of major disaster exercises designed to enhance the coordination of emergency response. These exercises included the "Operation Show-Me Response '90" earthquake exercise in December 1990, the federal "Response '91-Alpha" earthquake exercise in August 1991, and the Missouri Air National Guard med-evac state earthquake exercise (Steel Cure II) in October 1992,

which was coordinated with FEMA and the National Disaster Medical System (NDMS) exercise - "Operation Open Arms." At the same time, SEMA has spearheaded participation by Missouri State Government agencies in FEMA's Regional Inter-Agency Steering Committee (RISC). The RISC committee is designed to improve the interface between state government response agencies and their federal counterparts while they work together in carrying out Emergency Support Functions (ESFs) under the Federal Response Plan. This is accomplished through a series of ongoing meetings between these state and federal agencies to train personnel, delineate responsibilities, and review preparations prior to a catastrophic event.

As a result of our prior flood disasters, an up-to-date State Emergency Operations Plan, major state-federal exercises, and the state-federal interface through RISC, Missouri was far-better prepared to deal with response efforts in the "Flood of '93," Missouri's first experience with a catastrophic disaster within its borders. Among all the records, this flood event also represents the first time the Federal Response Plan was triggered by FEMA in the State of Missouri.

With FEMA's prompt activation of the Federal Response Plan on July 15, Emergency Support Functions were set up at the State-Federal Disaster Field Office in St. Louis County. The federal ESFs included Transportation, Public Works and Engineering, Information and Planning, Resource Support, Health and Medical Services, Hazardous Materials, Food, and Energy. Whenever possible through the long duration of this disaster, these federal ESFs were joined by their Missouri State Government counterparts at the Disaster Field Office. In other cases, coordination was accomplished by contact between the State EOC and the respective state agency office in Jefferson City. In its initial response to the flood, FEMA made a decision to locate the Disaster Field Office in St. Louis County (Earth City), to be in close proximity to the initial flood threat from the Mississippi River. However, as emergency conditions extended over several months and flooding spread elsewhere across the state, the location of the DFO away from the State Capitol presented some logistical problems for the state. This will be alleviated when FEMA relocates its field office to Jefferson City later this year.

Activation of the Federal Response Plan and its ESFs proved crucial to the emergency response efforts in numerous cases; particularly those where flooding generated additional emergency conditions. These include the St. Joseph water outage, the Hardin cemetery disaster, and scores of environmental and health hazards which represented a serious threat to public safety.

In response to these and other special emergencies, Missouri State Government agencies joined in the Mission Assignments for the

ESFs. State resources were used whenever possible, rather than the easier approach of simply turning over the entire operation to federal response capabilities. For example, the Missouri National Guard dispatched six water purification units to St. Joseph to help alleviate the water outage there, while at the same time, FEMA tasked the U.S. Army Corps of Engineers to transport some 900,000 gallons of bulk water to the area. Other shared response missions include the Hardin cemetery disaster where SEMA, the Missouri Department of Health, and the Missouri Funeral Directors Association volunteer Mortuary Response Team combined state-local resources. The Department of Health and Department of Natural Resources work on mission assignments to resolve health-environmental issues (floating oil drums, vector control, etc.)

SEMA operated its State EOC on a 24-hour basis during the entire emergency response phase from July 2 to September 7th. The State EOC was activated again on September 24th in response to the new wave of fall flooding and is still operating from 7 a.m. to 6 p.m. While activated, the State EOC staff maintained regular contact with flood-affected communities across the state to coordinate the disbursement of sandbags, generators, pumps, tents, and other essential equipment and supplies requested by local government officials.

Volunteers and Missouri National Guard units placed more than 28 million sandbags provided by the U.S. Army Corps of Engineers in flood-threatened communities across the state. At the peak of the flooding in late July, the Guard deployed a record 3,200 soldiers for security, water needs, sandbagging, and other emergency missions, and has spent some $7 million in response to the "Flood of '93."

In response to the summer flood, SEMA also supplied key state staff at the Disaster Field Office to coordinate the Mission Assignments under the ESFs, and to support on-going efforts for Individual and Public Assistance, Emergency Public Information, Congressional Affairs, and other programs. At the same time, additional SEMA staff were assigned to FEMA's Central Processing Office (CPO) in Kansas City, where thousands of disaster relief applications are reviewed and checks approved. SEMA continues to provide staff at both the CPO and DFO to support both Public Assistance and Individual Assistance programs.

In the field, state-level staffing was provided by SEMA and other Missouri State Government agencies at 36 Disaster Application Centers (DACs), operated jointed with FEMA. Two of these were mobile DACs which traveled for several weeks through more rural areas to better assist flood victims there.

To assist local governments with the recovery process, Governor Carnahan called a State Flood Summit meeting for local officials on August 7 in Jefferson City. The meeting was designed

to brief public officials about the various state-federal assistance programs, including public assistance to repair flood-damaged public property. Break-out sessions were held at the end of the general session for state staff to meet informally with local officials and discuss special concerns and problems. The Governor's Flood Summit proved highly successful in helping local officials better understand and utilize the various disaster relief programs to effectively assist their communities.

While the "Flood of 93" stretched SEMA and other state staffing to the limit, the disaster relief programs nevertheless were well coordinated with FEMA and other federal personnel. As a result, a wide range of disaster services were delivered effectively to benefit thousands of flood victims in need.

EFFECTIVENESS OF FEMA RESPONSE IN MEETING MISSOURI'S DISASTER RELIEF NEEDS

The Midwest summer flood has accurately been termed a "disaster in slow motion" - with many of the affected states, including Missouri, conducting recovery and disaster response operations both alternately and even simultaneously. The storm incident period assigned to Missouri's federal declarations covers nearly five months - from June 10 - October 25; the latter being the date which FEMA just recently decided upon to close out this unprecedented disaster event. Prior to this event, the incident period for Missouri's spring flood disaster was another five weeks, from April 10 - May 24. Thus the state was virtually immersed in a disaster condition from mid April through the end of October.

Throughout this period, FEMA assistance to the State of Missouri has been the vital force in effective response and recovery operations in a disaster truly beyond state and local capabilities. At the same time, other federal agencies, such as the Department of Transportation, Department of Defense, Environmental Protection Agency, Health and Human Services, and others provided crucial services under mission assignments to alleviate countless life-threatening situations during the prolonged disaster period.

FEMA quickly responded to Missouri's plight and activated its Disaster Field Office on July 9th, only hours after the state was declared eligible for federal assistance by President Clinton. The toll-free hotline for flood victims to call in seeking assistance was broadcast on national television early that morning and disseminated to all media throughout the duration of the disaster. Since Missouri's initial declaration for Individual Assistance included only five counties where damage assessment surveys had

been conducted by state-federal teams, a top priority for our state was to add other flood-affected counties as soon as possible. Based on excellent cooperation and communications between the Governor's Office, SEMA, and FEMA offices in Washington and Region VII in Kansas City, an additional 44 counties and the City of St. Louis were officially added to the declaration on July 10th. With this rapid turnaround by FEMA on the state's request, Missouri was in a position to begin recovery operations in virtually all flood affected areas across the state at that time.

Just three days later on July 13th, SEMA and FEMA jointly opened the first five Disaster Application Centers, which operated simultaneously in the greater St. Louis area for counties flooded by the Mississippi River.

FEMA's commitment to provide response and recovery assistance to Missouri as quickly and effectively as possible became a trademark of the agency throughout the long duration of this disaster. At the governor's request, FEMA approved the addition of more than 50 other counties to the Individual Assistance declaration over the next few months as the flooding raged on. The Public Assistance declaration grew from an initial 13 counties and two cities on 7-20-93, to 79 counties and three cities, with some ten additional counties pending at this time.

These state requests for IA and PA ranged from a single county to more than a dozen at a time, as damage assessment information and other support data became available. With the add-ons for Individual Assistance, Missouri was able to make relief programs accessible to more than 33,000 flood victims in all areas of the state. This delivery of services could not have been accomplished as rapidly or effectively were it not for the cooperation and diligent efforts of the FEMA Federal Coordinating Officer, the federal Individual Assistance Officer and other key staff with FEMA national and our Region VII office in Kansas City. On behalf of Governor Carnahan and all Missouri citizens, I commend FEMA for such an outstanding effort in this time of great need.

Missouri's experience with FEMA in previous disasters has been one of cooperation with good results. However, in the past, FEMA's role in Missouri disasters was generally limited to delivery of recovery programs. The "Great Flood of '93" has showcased FEMA's new commitment to successful efforts in disaster response to catastrophic events. It has also proven the success of the Federal Response Plan, when integrated with state and local emergency response plans, and the crucial services provided by Emergency Support Functions (ESFs) under federal mission assignments requested by the state. Without question, FEMA's projected $6.7 million for mission assignments in Missouri helped save lives and property and alleviated much of the suffering for disaster victims across the state. Undoubtedly, this was money well spent.

RECOMMENDATIONS ON IMPROVEMENTS FOR DISASTER PREPAREDNESS, RESPONSE, & RECOVERY EFFORTS AT THE LOCAL, STATE AND FEDERAL LEVELS

A case study of the "Great Flood of '93" will no doubt yield a voluminous amount of information to help local, state and federal governments improve disaster response and recovery operations for both serious and catastrophic disaster events. Sometime in the foreseeable future, we will be able to turn more attention to the valuable lessons learned when our long-term recovery programs are solidly in place. However, here are some initial recommendations and suggestions that I can offer at this time.

* **All local governments should appoint full-time emergency management directors on a paid basis, wherever possible.**

The summer flood certainly proved the worthiness of local emergency management capabilities. Local officials carried out public warnings on the flood threat, advisories to evacuate, search and rescue operations and many other emergency and recovery tasks. As demonstrated in the summer flood, Missouri has some of the finest local emergency management programs in the nation. However, voids exist in some counties and cities where, due to limited funds or resources, there is either no program operating or no local emergency management director appointed at this time. The flood disaster has, of course, sparked new interest in local emergency management and some communities are in the process of forming programs and naming directors. SEMA would like to do everything possible to encourage this process to continue.

* **There should be greater efforts between state and federal officials to allow local communities access to disaster applicant records for the purpose of enhanced delivery of services.**

The federal Privacy Act prohibits FEMA from sharing disaster applicant records with local officials. This causes some unnecessary delay in the delivery of services. For example, during this disaster, there were several cases where local officials offered to assist area flood victims in meeting special disaster needs, such as providing mobile homes for temporary housing, but the victims could not easily be identified by local officials. In another case, county officials wanted to lower the tax assessments of all flood-damaged homes, based on disaster application records of residents in their area. This would have prevented the need for long, protracted damage surveys which the county did not have the

manpower to conduct, but because of the federal privacy act, these records could not be released. Finally, by not having access to these records, it was more difficult for local and state agencies to ensure against duplication of disaster services and/or payments.

- **FEMA should improve the system for the use of mobile homes as temporary housing for flood victims in need of this assistance.**

FEMA's offer to provide mobile homes as alternative temporary housing to eligible flood victims requesting this program became one of the greatest single controversies in Missouri during the initial recovery phase for the "Flood of '93." FEMA reserves use of these mobile homes as a last alternative to flood victims when other temporary housing units are not available. However, the initial placement of many mobile homes proved time consuming and difficult. The process should be revamped so that when alternative housing is not available, mobile home needs can be identified more quickly to accommodate the needs of victims whose own homes are uninhabitable due to the flooding.

- **FEMA should centralize as much as possible the location of their field operations.**

During the "Flood of '93," FEMA established both a Disaster Field Office (DFO) in St. Louis County (Earth City), and a separate Central Processing Office (CPO) in Kansas City, which was logically designed to be in close proximity to the FEMA Region VII office in Kansas City. The CPO was set up as a separate site for the review and approval of all disaster relief applications, including those for both Individual and Public Assistance programs. As a result, SEMA was required to place key staff at both the Central Processing Center and Disaster Field Office, while maintaining operations at the State EOC as well.

For Public Assistance, the state was divided into two sections, with SEMA staff at the CPO supporting Public Assistance in the western area of the state, and other SEMA staff at the DFO supporting Public Assistance for the eastern half of the state. This has caused some strain on limited state staff, as well as other minor coordination and logistical problems.

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Testimony of NCCEM Member

H.L. WHITFIELD - Director

Scott County Emergency Management
Davenport, Iowa

before the

HOUSE PUBLIC WORKS
and
TRANSPORTATION COMMITTEE

Subcommittee on Investigation & Oversight

October 28, 1993

H.L. Whitfield
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Mr Chairman and members of the committee.

Scott County, Iowa is located on Iowa's eastern edge and is bordered on three sides by rivers. The Wapsipinicon River is the northern county line and the Mississippi River takes a turn to trace both eastern and southern borders. The county has a metro area composed of the contiguous cities of Davenport and Bettendorf, which accounts for 130,000 of the counties 160,000 residents. Unincorporated areas of Scott County, the cities of Bettendorf, Davenport, Princeton, LeClaire and Buffalo, all of whom lay along the river front were impacted to some degree by the flooding.

Disaster Preparedness:

Scott County and its municipalities, including the two principal cities of Bettendorf and Davenport is served by a single emergency management agency. The agency is governed by a commission composed of the chief elected officials or their repesentives from each of the sixteen miunicipalities in the county, plus the sheriff or his representive.

The emergency management agency has two primary planning responsibilities. It manages the development of a single county-wide comprehensive multi-hazard emergency response plan and its works directly with public and private agencies and organizations in developing individual response plans, exercises and emergency management training. All local plans are predicated on mitigation, warning, response , recovery and , with the exception of the nuclear power plant plan, are multi-hazard in scope.

The emergency response plan utilized during the flood of 93 has been developed since two 100 year floods occurred within one week in 1990. The plan provides for each community in the county to establish acommand center from which to manage response and recovery operations for their municipalities. A county Emergency Operations Center was established to support all command centers and coordinate multi-jursdictional and shared services used by individual municipalities after local resources are exhausted. Coordination between command centers and the emergency operations center is accomplished by assigning a representive from each operating municipality to be part of a joint command for the emergency operations center.

Specific actions taken prior to the onset of the Mississippi flood waters in June was to establish a series of meetings with public works, emergency response and administrative officials from each municipality to evaluate information, establish a " planning standard" based on anticipated flood levels, develop action plans based on various flood levels and make specific assignments for actions steps before and during the actual flood occurrence.

The individual command centers and the emergency operations center was established on a daily basis on the date the Mississippi reached flood stage, twenty four hour operations was established at three feet above flood level and continue for approx four weeks.

Events and Special conditions:

The unusual, and continuous weather systems with the large amounts of rain in the upper Mississippi valley and throughout the Midwest in April, May, June, July and August created the conditions that caused the flooding on the Mississippi river. The Wapsipinicon river on the counties northern boarder had been at flood stage for a number of months prior to the Mississippi flood. The confluence of the Mississippi and the Wapsipinicon occurs at the north east border of the county and the continuous flooding of the Wapsipinicon contributed to the flooding on the Mississippi.

Parts of the city of Bettendorf in protected by a sea wall which protects up to a level well above the recent flood stage. The cities of Davenport, Princeton, Buffalo and LeClaire have no developed dikes or levees and were most impacted by the flooding.

Inherent in flood preparation is the need to begin protection methods prior to the flood waters arrival and to have accurate crest forecast information on which to develop those plans. This flood crest forecast was increased on a daily basis and it was only three days prior to the final crest that the crest was accurately forecasted.

Total damages and expenses estimates for the county and its municipalities for public loss will be approx four million dollars. The largest amount of 2.7 million was in the city of Davenport , the city of Bettendorf with .9 million and the balance for Scott County, Buffalo, Princeton and LeClaire.

(2)

FEMA Response:

Scott County requested , and received a presidential disaster declaration in 1990 due to two 100 year flash floods on a creek that runs through Scott County, Davenport and Bettendorf. The FEMA response during that situation consisted of the establishment of a Disaster Assistance Center and the inspection process following the declaration.

Although the center was established within the prescribed three days after the declaration, some communications problems were experienced prior to the establishment of the center and during the operation the center. Basicly coordination of the operation of the center throughout the operation was a problem.

Communications and coordination during the 93 flood was much more effective. We rely to a great extent on the Iowa state office of Emergency Management for assistance in coordination with FEMA and the state emergency management offices did an outstanding job of assuring the communications and coordinating links were in place and continued to function between the local, state and federal agencies. Initial contacts were made with FEMA officials immediately following the disaster declaration and operation efforts were coordinated through out the period of time that the center was open.

A Disaster Field Office was established in Davenport and the full range of agencies were present and avaiable for assistance. Continued efforts were made by FEMA personnel to advise local officials of assistance that was avaiable . The staff of the Disaster Application Center was knowledgeable and appeared to be concerned about the total welfare of the people being served.

The level of service offered by FEMA during the flood of 93 would have to be superior to past experiences.

Improvements:

One specific area of the FEMA relief effort should be reviewed . The Mississippi river crested at 22.6 feet on July 3 which was 7.6 feet above flood levels and maintained levels of 22 feet for four days. When the Disaster Application Center was opened on July the 14th. the river levels were still above 21 fee and every command center, public works department and other departments and the emergency operations center were still on a twenty-four hour duty schedule. .

The opening of the DAC's are critical to the relief effort and are especially important for displaced persons and people who will need temporary housing and assistance, however: we should consider some flexibility for those situations such as river floods or other situations were homes and facilities are not accessible for damage assessment.

The initial damage assessment process was confused and complicated. The presidential declaration was given and no initial damage assessment was required and then later there were repeated requests for that information. A clear set of guidelines should be developed for initial damage assessment.

Mitigation:

Scott County has applied for a project to install stream monitoring devises on the creek which caused the 90 flash flooding in our county. Although that project has been submitted for two years we have yet to receive a response from the application. We find the paperwork requirements confusing and delays are unexplained.

Summary Comments:

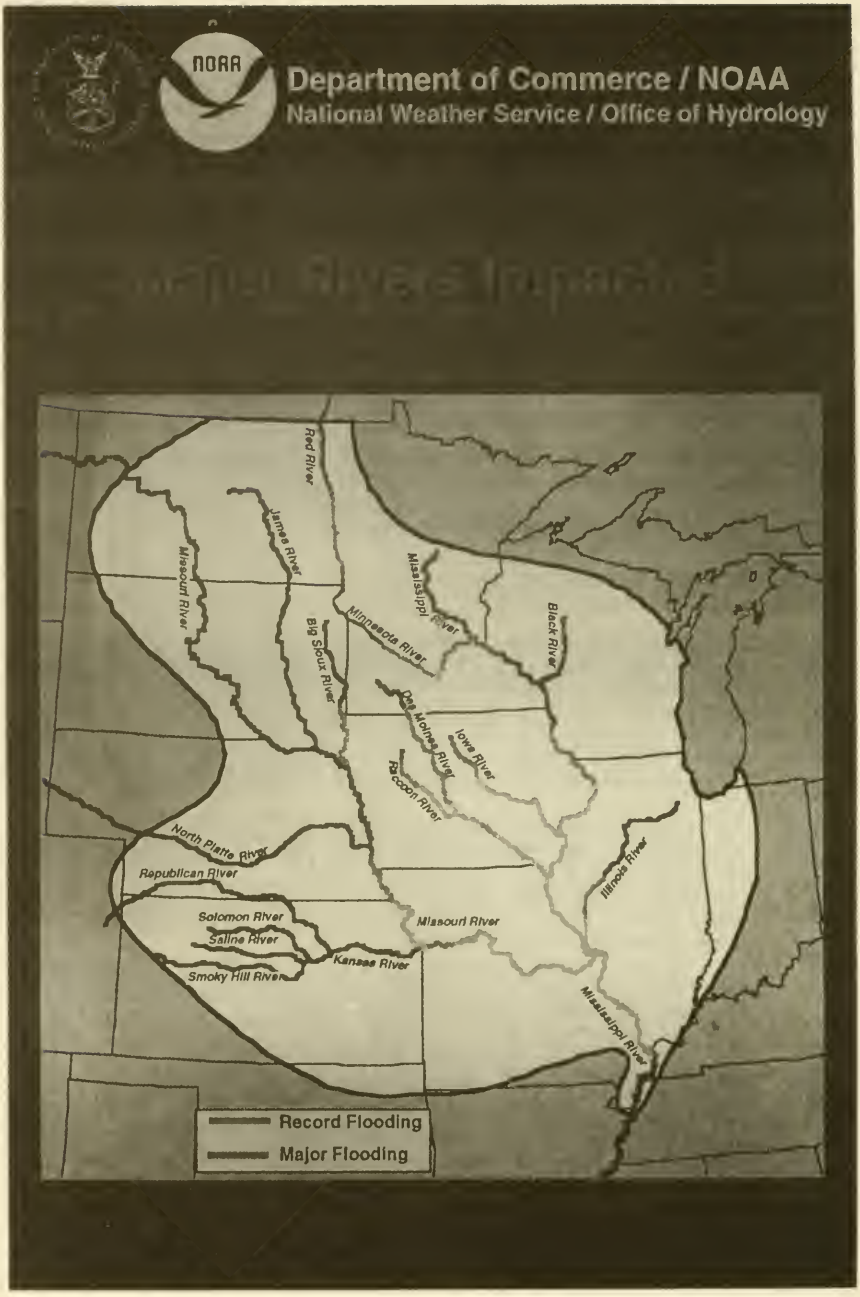
- Clearly FEMA must remain the central coordinating point for assuring the federal response and relief services are avaiable when a disaster of this nature occurs.

- FEMA should allow the states a larger role in the review and approval of mitigation applications.

- The local municipalities will remain the first responders to any disaster, including catastrophic and therefore must maintain their level of skills through training, exercising and planning. Sufficient funding must be maintained to assist the local areas to maintain their proficiency

- The local emergency managers must be more involved in the development of process and procedures because any change will most effect the locals.

I believe Scott County and all of its municipalities, agencies and organizations did an outstanding job of responding to the flood in 93. The cooperation of the state of Iowa before, during and after the flood was outstanding.


Department of Commerce / NOAA
National Weather Service / Office of Hydrology
Red River
James River
Missouri River
Big Sioux River
Minnesota River
Mississippi River
Black River
Des Moines River
Iowa River
Raccoon River
North Platte River
Republican River
Solomon River
Saline River
Smoky Hill River
Kansas River
Missouri River
Illinois River
Mississippi River
Record Flooding
Major Flooding

DEPARTMENT OF THE ARMY

COMPLETE STATEMENT
OF
LIEUTENANT GENERAL ARTHUR E. WILLIAMS
COMMANDER, U.S. ARMY CORPS OF ENGINEERS

BEFORE THE

SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT
HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

OCTOBER 28, 1993

Mr. Chairman and members of the Subcommittee, I am here today to testify on the role of the Army Corps of Engineers in the Federal response to the flooding disaster which occurred in the Midwest this summer. Accompanying me is Major General Stanley Genega, my Director of Civil Works.

In my testimony, I will first provide a historical perspective on the flooding in the Mississippi Basin and then recount the events and conditions that led to the 1993 flood and a description of the flood. I will address the role of the Corps in providing navigation, recreation, and flood control; and I will describe the major actions we took under the Corps emergency management responsibilities. As you know, the Federal response required extensive coordination among the many agencies involved. I will address our relationships with local, state, and other Federal agencies during the flood; and finally, I will discuss some lessons learned from this experience.

HISTORICAL PERSPECTIVE

There have been significant floods in all or parts of the upper Mississippi River valley eleven times since 1880. In 1879, Congress authorized the Mississippi River Commission to undertake flood control work along the Mississippi, but the Commission focused on channel stabilization and navigation rather than developing flood control works and had no construction authority above the mouth of the Ohio River. Not until the Flood Control Act of 1917, in which Congress specifically authorized flood control along the Mississippi and the Sacramento Rivers, did the Commission actively pursue flood control. Congress authorized $45 million for flood control work on the Mississippi River between the Head of Passes in Louisiana and Rock Island, Illinois, and directed the Chief of Engineers to approve all "plans, specifications, and recommendations" of the Mississippi River Commission.

The 1927 flood, one of the greatest in the history of the Mississippi River basin, inundated over 16 million acres below Cairo, Illinois. Property damage amounted to $4.4 billion at today's values, hundreds of lives were lost, and over 600,000 people were displaced. In the aftermath, Congress passed the Flood Control Act of 1928 and authorized the Mississippi River and Tributaries Project. This was primarily on the lower Mississippi River from Cape Gerardeau, Missouri to the Gulf of Mexico, and was the Nation's first comprehensive flood control system. The Corps did not become significantly involved in flood control projects until passage of the Flood Control Act of 1936, which made the Corps responsible for flood control throughout the Nation. The Flood Control Act of 1938 initiated a policy of full Federal responsibility for management of flood control reservoirs. Subsequent flood control acts expanded the purposes of many flood control projects to include such functions as hydropower and recreation.

EVENTS AND CONDITIONS THAT LED TO THE FLOOD AND A DESCRIPTION

The flood of 1993 was a very significant event. The precursor meteorological conditions were occurring long before the flooding actually began in June 1993. Above normal precipitation occurred through most of the upper Midwest, eastern Great Plains and Mississippi River valley from the beginning of the growing season (April 1), and dated back ten months at some locations. When the persistent storms came in June and July the intense rain rapidly ran off the saturated soils and into the already swollen streams and rivers thereby causing them to rise above the channel banks and onto adjacent flood plains. Before the rains subsided in September a total of nine states experienced either major or record flooding along their rivers and streams. Four-hundred and ten counties were declared disaster areas and millions of acres were inundated.

The flooding exceeded all previous record high levels at many locations. New record high water levels (stages) were established on the Mississippi and Missouri Rivers and many tributaries. Along the Mississippi River itself, record high stages were recorded from Davenport, Iowa, to Chester, Illinois, (above its confluence with the Ohio River) and on the Missouri River from above St. Joseph, Missouri, to its mouth at St. Louis.

Extensive damage occurred to farmlands and urban areas, as levees either overtopped or breached. For weeks, the entire upper and middle reaches of the Mississippi River and the major portion of the navigable reach of the Missouri River were either closed to commercial navigation or restricted to limited navigation. Corps flood control reservoirs were filled to record capacities, many

reaching levels several feet above their spillway crests; but all reservoirs continued to provide protection throughout the flood.

The flood was very large in magnitude and rare in nature. The chance of occurrence of the peak flow that was experienced at St. Louis is estimated to be between one in one-hundred and one in one-hundred twenty-five (100-year to 125-year frequency); at locations in the upper Mississippi River its probability is estimated to have been one in five-hundred (500-year frequency). Not only was this flood characterized by its record peak levels but also by its sheer volume and duration. The volume of runoff produced by the incessant and protracted rainfall dwarfed that produced by the previous record flood in 1973. At St. Louis, the Mississippi River remained above flood stage for more than three months and, at Hannibal, Missouri, the duration was even longer.

ROLE OF THE CORPS IN OPERATING ITS FACILITIES

The Corps has constructed and operates a vast flood control infrastructure on the tributary rivers in the upper Mississippi River Basin. This consists of 72 dam and reservoir projects, over 200 structures including levees, floodwalls, pumping plants, and diversion structures. Additional flood control structures have been built by other Federal agencies, and numerous non-Federal public and private interests. Within the basin, the Department of Interior's Bureau of Reclamation has eight dams and reservoirs which have flood control as part of their purpose. Flood control releases from these dams are managed by the Corps, since the Flood Control Act of 1944 assigned that responsibility to the Secretary of the Army for all dams built in whole or in part with Federal funds.

Each reservoir in the system has a water control plan which specifies how water will be stored and released under a variety of hydrologic conditions in its watershed. During the spring, in anticipation of seasonally higher rainfall and snowmelt, the reservoirs are maintained at levels to maximize the amount of flood control storage space. However, all reservoir water cannot be withdrawn, since other authorized project purposes, such as water supply, hydropower, and recreation, must be accommodated by maintaining water in a conservation pool. Under flood conditions, flood waters are impounded in the reservoirs and later released in a controlled manner to minimize the impact downstream. Once a flood crest is reached, the operating plans call for us to release the stored floodwaters as quickly as possible without adding to the crest downstream. It is important to rapidly return each reservoir to the conservation pool level, so storage space will be available to capture the next flood. Our operations in the spring of 1993 were no different in these regards.

To assure that the dams and reservoirs in our system will produce the flood damage reduction benefits for which they were intended, the Corps maintains reservoir control centers in each district and division office and staffs them with experts in hydrologic and hydraulic engineering who manage the control of water at these projects. These water control managers prepare plans for the regulation of the reservoirs under all ranges of expected hydrologic conditions from drought to floods. In cooperation with the National Weather Service (NWS) and the U.S. Geological Survey (USGS), who supply the gages, the Corps experts have established extensive networks of rainfall and streamflow measuring stations, which they continuously monitor through the use of satellite data transmission facilities and computer-run data management and display systems. They also monitor the weather and river forecast information produced by the NWS.

In early May, before the heavy rains began to fall on an almost daily basis in the upper Mississippi River basin, the reservoirs were at levels in accordance with their operation plans. By August 1, when the reservoirs were at their peak storage, almost 20 million acre-feet of floodwater was being withheld from the flood-swollen rivers. These waters are still being released from the system in a controlled manner as the rivers recede.

Recreation facilities are constructed around the conservation pools at most of our reservoirs. Many of these facilities are constructed to be near the water at normal times to accommodate the using public. However, when the lakes hold back flood waters, many of these facilities are flooded. The Corps temporarily closed over 100 recreation areas, either fully or partially, at projects impacted by the flooding. Shower buildings and comfort stations were severely damaged, roads were eroded, areas around boat ramps and swimming beaches were eroded and campsites were destroyed. We estimate that our recreation facilities suffered damages amounting to about $11 million.

The Federal navigation system in the Upper Mississippi River Basin is vitally important to the economy of the Nation. Upstream from Cairo, Illinois, there are 34 locks at 29 sites along the 854 navigable miles of the Mississippi River. There are 753 miles of navigation on the Missouri River, but there are no locks. The Illinois River has 9 locks along its 327 mile system, and the Kaskaskia River has 1 lock along its 30 mile length. Navigation was essentially stopped on these systems due to flood conditions that extended from June through August. As an example of the impacts on navigation, approximately 8 million tons of cargo normally passes through Lock 27 near St. Louis during the month of July. This year, the total for July was zero. Similar impacts were reported at other locks within the system above Cairo, Illinois.

The Corps projects operated as they were designed for flood control. However, many of the projects suffered damage, such as the $11 million in damages to recreation facilities mentioned above. Many of the lakes had record volumes of water being released either over the spillways or through the outlet gates. Water flowing over natural materials, such as soil, will cause erosion. Damages occurred at locks, dams, spillways, dikes and levees. Erosion of the outlet channel at Milford Lake, Kansas due to high releases and erosion to bank stabilization and navigation dikes on the Missouri River are examples of the type of damages which occurred to Corps structures. This occurred at a number of projects resulting in damages totalling about $75 million. Flood waters also moved large quantities of sediment around in the rivers. We estimate we will do about $11 million worth of dredging to restore the navigation channels. The total damages to Corps operated and maintained projects due to the flood of 1993 is approximately $100 million.

There are other costs related to the flooding and associated with Corps programs. Based on preliminary estimates, the President requested and Congress provided up to $180 million in the Fiscal Year 1993 Emergency Supplemental Appropriation to rehabilitate damaged flood control works under the P.L. 84-99 rehabilitation program. We must recognize that in many areas, the floodwaters are only now receding to the point where we can determine the damages. As we have begun the rehabilitation of those eligible projects, the extent of damage has generally been greater than was originally estimated. We are currently reviewing our estimates to determine how best to allocate the remaining resources over the remaining needs. We also spent about $25 million for emergency flood fighting under that authority.

Clearly, the Federal government, and specifically the Corps, has a significant investment in flood control works in the Midwest. Yet flood damages sustained during 1993 also were substantial, in part, because of the unique set of meteorological conditions and the fact that the flooding itself was greater than previous floods for many areas and greater than the design level of many of the structures. Nevertheless, the Corps flood control infrastructure, including flood control reservoirs, levees, walls and other structures, performed extremely well during the crisis, preventing billions of dollars in damages. For example, of the 230 levees constructed by the Federal government, only 38 were overtopped and 2 breached.

THE ROLE OF THE CORPS IN EMERGENCY MANAGEMENT ACTIONS

The Corps operates under two basic emergency authorities that allow us to prepare for and respond to disasters. These authorities are the Flood Control and Coastal Emergency Act, as amended, Public Law (P.L.) 84-99, and the Robert T. Stafford Disaster and Emergency Assistance Act, as amended, P.L. 93-288.

Inherent in these Federal laws is the principle that emergency response and assistance is primarily the responsibility of the local and state governments. The Federal role is to assist these entities when their resources are no longer adequate to respond to the crisis.

The Corps prepares for emergencies by developing contingency plans for natural events, such as earthquakes, hurricanes, floods, or droughts. We test our plans with training exercises. The overall contingency plan for a holistic Federal response is the Federal Response Plan developed by the Federal Emergency Management Agency (FEMA) in conjunction with 26 Federal Departments and agencies and the American Red Cross. It is the primary guiding document for catastrophic disaster response. Multi-agency exercises are initiated by the Department of Defense, the Department of the Army, the Corps, FEMA, and other Federal agencies to test and improve the Federal Response Plan and the various agency contingency plans.

The flood fight (both response and recovery phase) has demanded a massive commitment of Corps personnel. We have in the Corps an outstanding volunteer program that has met this need. When the call went out through the Corps for assistance, more than 1000 Corps team members came forward and volunteered for duty in the affected area. At its peak, the need for personnel has involved almost 1000 employees. In addition to our National Corps Headquarters, three Corps divisions (North Central, Missouri River, and Lower Mississippi Valley) and six Corps districts (St. Paul, Minnesota; Rock Island, Illinois; Omaha, Nebraska; Kansas City and St. Louis, Missouri; and Memphis, Tennessee) have been involved in responding to the flood. Additionally, the Bureau of Reclamation has provided personnel to support the Corps.

Our Corps Headquarters and each Corps district and division has an Office of Emergency Management responsible for providing the preparations and plans necessary to respond to emergencies. When this flood hit the Midwest, the Emergency Operations Center (EOC) at each affected office, as well as at Corps Headquarters, was activated, and the emergency management staff was supplemented by engineers, real estate specialists, communications experts, personnel specialists and other professionals. Throughout the disaster, the EOC's operated 24 hours a day, seven days a week. These centers coordinated information and tasks on a continuous basis and were vital to achieving the quick responses required in this emergency.

As the magnitude of this event became clearer, I directed the establishment of a coordinating office to oversee the levee rehabilitation activities of the Corps Divisions directly involved in the flood. That office, known as the Deputy Director of Civil Works (Forward), was opened on August 4, 1993, and

located in St. Louis, Missouri. It was headed by MG Albert Genetti, our Ohio River Division Engineer. His staff of 31, both military and civilian, were on temporary duty from their permanent work locations throughout the country. On September 17, having set recovery policies and procedures in place, the Deputy Director of Civil Works (Forward) office was phased out.

Under the authority of P.L. 84-99, the Corps assists State and local agencies with planning and flood fighting. The Corps maintains supplies, such as sandbags and pumps, for use in flood fights. We also maintain lists of sources where supplies and equipment can be quickly procured. When necessary, military aircraft are used to transport the supplies to the affected area. The supplies and equipment are turned over to local and state officials for their use in carrying out their emergency plans. As early as June, we began to distribute what would eventually be over 31,000,000 sand bags and 430 loaned pumps to aid local communities in the flood fight. We also in some appropriate instances contracted with private construction firms to assist in reinforcing some levees. This emergency work along with some advanced measures and flood fighting operations throughout the affected area amounted to about $25 million. At the same time, our professional engineers were assisting local entities with technical advice. By working closely with the levee districts and their local and state officials and other Federal agencies, the Corps was ready to respond to the Midwest flooding.

The Corps operated solely under authority embodied in P.L. 84-99 at the beginning of the flood, and coordinated its activities with FEMA and others. Once FEMA activated the Federal Response Plan (FRP) on July 11, the Corps also began to respond to FEMA missions under the Stafford Act. As the lead agency for the Public Works and Engineering function (Emergency Support Function #3) under the FRP, the Corps performed such functions as providing damage surveys, generators, pumps, portable toilets, installing culverts, and supplying potable water. A significant water supply mission involved the hauling and storage of potable water to Des Moines, Iowa, when their water treatment plant was flooded. It also included the rehabilitation of the plant which restored treated water to approximately 250,000 people. We have completed or are currently working on 29 FEMA projects in 7 states. These projects have a total value of $16.8 million.

COORDINATION EFFORTS

Before and during this flood emergency, the Corps coordinated with several Federal agencies involved in navigation, weather, and emergency management. Most notable were the U.S. Coast Guard (USCG), the U.S. Geological Survey (USGS), the Bureau of Reclamation (BOR), the National Weather Service (NWS), and the Federal Emergency Management Agency (FEMA).

We continuously monitored the NWS weather and river forecast information and used the information in making reservoir water control management and flood-fight decisions. We also coordinated with the NWS River Forecast Offices during the development of their river forecasts to apprise them of planned storage or release of water from our reservoirs and we coordinated with the BOR relative to the flood control operation of their reservoirs in the Missouri River basin.

We called upon the USGS to make flow measurements during the flood at key river locations for use in developing flow vs. stage rating curves needed for making water control decisions during the height of the flood. Many pre-flood rating curves did not cover the range of river heights attained during this flood because the 1993 flood heights were unprecedented.

With the activation of the FRP, we immediately provided staff to the Public Works and Engineering desk at FEMA headquarters and at Regional Operations Centers and/or the State Emergency Operations Centers. Corps representatives were also assigned to FEMA's Disaster Field Offices as they were established. Their role was to coordinate with other agencies to assure that assistance was reaching the affected disaster area.

In addition to our work for and in cooperation with FEMA, we worked closely with a number of the support agencies, namely, the Environmental Protection Agency, U.S. Public Health Service, Department of Transportation (in addition to the coordination that had been ongoing with the Coast Guard), the Departments of Interior and Agriculture, and the General Services Administration. Throughout the catastrophic disaster response phase, each of these agencies aided us as we worked on FEMA mission assignments. These assignments included providing communities with potable water; bottled and bulk supply water, and Reverse Osmosis Water Purification Units; port-a-potties; emergency repair of water treatment and waste water treatment plants; and distribution of sand bags, pumps, and generators. The Corps was also tasked by FEMA with conducting damage assessments. We utilized Corps personnel and asked for and received significant numbers of engineers and technical staff from the Bureau of Reclamation some of which continue to contribute to our ongoing efforts.

BRINGING BACK NAVIGATION

We are especially pleased with the results of the efforts to bring navigation back to the Upper Mississippi River Basin as quickly as possible without creating additional damages or threatening the stability of the weakened levees along the river. There was concern among local officials that the wake of passing tows would further damage their flood control structures.

On July 19, the Corps met with the River Industry Executive Task Force and the USCG to discuss the navigation situation, weather and river conditions, and to develop a protocol for reopening the waterways. This group consists of seven representatives from the towing industry, two representatives from the Corps, and one from the Coast Guard. It was formed in 1988 to coordinate navigation activities during the drought and was used again in 1989 and 1990. This group conceived a plan of operation which included a traffic control center for direction, monitoring and information exchange, public information, coordination with other interest and a series of tows to evaluate condition and alleviate the concerns of adjacent land owners and levee districts. The test tow protocol required that three test tows descend the Illinois River and the upper and middle Mississippi River to determine if wave action would cause additional damage or stress to the levees. Local levee district representatives were invited to ride the test tows down the river to see first hand the effects of commercial traffic.

The test tows began on August 19 and were completed by August 23. The result of the test tows was that a coordinated, cooperative decision was made early the following week to open the rivers to downbound traffic. Similar test tows were then run upstream which allowed the rivers to be opened to upbound traffic as well. The navigation industry is to be commended for its cooperative effort with the levee districts and local officials to ensure that no additional flooding or erosion was caused by their tows. The River Industry Executive Task Force exemplifies what Government and industry can accomplish in cooperative approaches to problem solving.

REFLECTIONS ON OUR FLOOD RESPONSE

We have already begun the review of our actions, both under our own authority (P.L. 84-99) and that for FEMA under the Federal Response Plan. This is happening even as 1,000 people remain involved in the recovery and rehabilitation. Our present goal is to have all levee repairs completed by December 1994. In addition, we are providing opportunities for local levee owners to take advantage of available programs which provide for non-structural alternatives to levee repairs.

We have already determined that the Deputy Director of Civil Works (Forward) concept was an absolute success. Not only was the office able to coordinate implementation of policy, but was a "one stop" information office that elected officials and members of the general public could contact for specific information. Through the Public Affairs Office, information affecting the entire area was made available to citizens and the media in the Midwest. We were thus able to increase the Corps responsiveness

and credibility with those most affected by the flooding and its impact.

Given all the work by Corps team members, the one thing that we keep learning and relearning is that you can never communicate enough. Communicating to all citizens, and other agency staff, not just those in the affected area, once again was an absolute requirement.

On the engineering front, we also recognize the need for a better computer model to simulate the flows of the Mississippi and Missouri Rivers and their tributaries for use in determining impacts of facilities and water control plans. We are already embarking on the development of that model and plan to coordinate with the NWS in its development.

We have to take a hard look at how we can improve automation of data dissemination among our districts, divisions, and Headquarters. This flood also evidenced the need to develop the means for the exchange of water data between Federal agencies on a real-time basis.

A number of things worked very well during the flood. The Corps flood control projects, consisting of reservoirs and levees, worked as designed and withstood the test of this flood. The water control plans for the reservoirs were very beneficial in guiding our response to these unprecedented conditions. The Emergency Operations Centers at Corps Headquarters, districts, and divisions functioned very well during the crisis providing timely responses to needs in the affected area. The River Industry Executive Task Force worked extremely well and illustrated the benefits of Government and industry cooperation. Our volunteer program was also a great success, providing a pool of over 1000 individuals from across the Corps who were willing to go to the stricken area and join in the flood fight.

In closing, I would like to take the opportunity to recognize the heroic efforts of local communities and citizens, the states, National Guard units, and all of the Federal agencies that participated in the flood fighting activities this summer. The Army Corps of Engineers was an integral part of this effort and I am proud to be associated with the dedicated people, both military and civilian, of the Corps of Engineers.

Mr. Chairman, that concludes my statement. MG Genega and I will be happy to answer any questions you and the Subcommittee may have.

STATEMENT OF

JAMES LEE WITT

DIRECTOR

FEDERAL EMERGENCY MANAGEMENT AGENCY

BEFORE THE

SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT

COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

U.S. HOUSE OF REPRESENTATIVES

OCTOBER 28, 1993

I am pleased to have the opportunity to appear before the Subcommittee today to discuss the Federal Government's response during the early weeks of the recent Midwest flood disasters.

Emergency management is based on one fundamental principle -- *people helping people*. When I first took office, I issued a challenge to all FEMA employees to strengthen that principle by working toward a national partnership in emergency management. There were two key elements to that challenge. The first was that at those times of highest stress, visibility, and tremendous human suffering, it is both the expectation and the obligation of FEMA to respond quickly when our State and local partners need us, and to effectively meet their needs. The second was that our success in providing relief and assistance following a disaster is measured by each individual, family, community and State who turns to us in their time of need, and by our ability to meet those needs in cooperation with our partners. Little did I know that we would be tested so quickly by Midwestern flooding of historic proportions, or that we would be using many innovations so quickly.

I am very proud of the way FEMA and the Federal Government responded to the floods and the degree to which we demonstrated not only what *people helping people* really means, but that partnership and teamwork deliver results. I had the opportunity to talk to many disaster victims during my numerous visits to the affected areas, including those with the President and the Vice President, and learned first-hand not just of the thanks they had for the assistance they were receiving, but how it allowed them hope for the future.

I would also like to underscore the extensive commitment made by the President to alleviating the suffering of the victims of the Midwest flooding and the tremendous support that was given to me and to all of the agencies of the Federal Government during our response operations. I worked very closely with the White House on a regular basis throughout the entire operation and received tremendous support. I would also like to express my deep appreciation to the Congress for its support, in working to pass the

disaster supplemental quickly, joining together with us in solving problems, and the personal support that has been expressed by so many of the Members.

There were many factors that contributed to making this one of the most successful disaster response operations. Today, I would like to emphasize three key points: (1) new approaches that FEMA used for responding to disasters of this size; (2) aspects of an improved Federal/State partnership that was pivotal in making this an effective response operation; and (3) the enhanced teamwork between Federal agencies under the Federal Response Plan which resulted in expedited aid to all areas.

We were proactive. FEMA and the Federal Government did not wait to be called upon -- we initiated contact, placed personnel, and worked hand-in-hand with our State counterparts in monitoring the situation, identifying needs, and delivering the required assistance.

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I had daily conference calls with the Emergency Management Directors and other key officials of each of the nine affected States, the Federal Coordinating Officers, FEMA Regional Directors, and key management of other Federal agencies. This was the first time this had been done. We used these conference calls as a means for States to identify problems and issues early and to give us a chance to resolve them before they became major issues. Everyone participated in the process and heard the results. As a result, we were able to forestall problems in resources or funding and, more importantly, make sure that critical assistance was delivered where it was needed most by States, locals and individuals. Decisions were not just made by remote officials but by officials at all levels working together.

Using our Regional Response Plans, we had FEMA personnel stationed in State Emergency Operations Centers who worked round-the-clock with State officials in identifying needs and determining types of assistance required.

We activated the headquarters' Emergency Support Team under the Federal Response Plan to monitor requirements in States already declared major disasters as well as those in which the crisis was still growing but where declarations had not yet been made. FEMA personnel worked hand-in-hand with the other Federal agency representatives in our Emergency Operations Center to share information, process requests for assistance, and resolve problems.

We used situation assessment resources, including aerial reconnaissance products that could be used by headquarters and field personnel and Geographic Information System technology to support information dissemination efforts. We linked up the Emergency Information System directly to State and local emergency operations centers so that it was readily available as needed.

We initiated the FEMA Recovery Channel with daily television satellite feeds that could be picked up by any stations throughout the affected area. In addition to summaries of our daily activities, we

provided interviews with key officials representing Federal or volunteer agencies that were of primary interest to the affected areas.

We ran the FEMA Recovery Channel from July until September 3, reaching more than one million cable subscribers as well as countless other families not connected to cable. The channel was picked up in the White House and in both houses of Congress through live feeds directly from FEMA. In fact, we even used a two-way hook-up to televise one of my daily meetings with senior staff from FEMA and other Federal agencies directly to the Office of the White House Chief of Staff, Mack McLarty. This allowed Mr. McLarty and his staff not only to hear and see the presentations, but to ask questions as well.

The daily meetings I conducted with FEMA staff were unique in that we included, on a regular basis, the Federal agency representatives who were working on a day-to-day basis as part of the Federal Response Plan Emergency Support Team located at the FEMA headquarters. Prior to my administration, Federal agency

personnel watched such meetings via live television feeds but could not participate. By including our Federal counterparts in these meetings, we were able not only to exchange information but to resolve problems quickly. It also served to solidify a team approach to our response operations. In addition, senior staff from the Department of Agriculture's long-range recovery staff attended my daily meetings on a regular basis.

We made outstanding progress in helping the States deal with donations. Donations of goods are a reflection of the generosity of the American people. But tons of donated goods that may not meet the needs of a stricken area can frequently cause logistical nightmares for State and local emergency managers and still leave individuals without critical supplies. We had been improving our procedures under the Federal Response Plan to deal with these issues and were able to test the improvements during the floods.

We dispatched donations experts to work directly with State officials, private relief and volunteer agencies in establishing hotlines

and procedures for donations. In lieu of goods, people interested in donating to flood victims were requested to send money which could be used to buy necessary staples from local markets, thereby eliminating the huge requirements of storing, sorting, and stockpiling materials.

Another function under the Federal Response Plan that we tested for the first time was the establishment of a Mobilization Center in Topeka, Kansas. This was a major storage and staging area for vitally needed equipment such as pumps, water, portapotties, cleaning supplies, and other Federally provided or privately donated materials. We worked very closely with Kansas officials in setting up the Center. As a result, when State officials were told of a local need, they knew precisely what we already had available at the Mobilization Center and that it could be moved to the affected location quickly.

Another noteworthy element of the flood response was FEMA's establishment of a new grant category under the Individual and

Family Grant program to support expenses incurred by families whose homes were inaccessible for weeks or months due to flooding. This category, known as Emergency Living Expenses, permitted disaster victims who qualified for the Individual and Family Grant program to be eligible to receive additional assistance up to a State-determined level to cover these costs. The only limitation was that the total grant amount did not exceed the $11,900 program limit per household.

The summit that President Clinton held in St. Louis with Cabinet officials, Governors, and other key State officials, was a landmark approach to bringing Federal and State resources together working toward a common goal. This unique approach emphasized the President's clear commitment to aiding the affected areas while, at the same time, demonstrating the effectiveness of an intergovernmental partnership in meeting requirements and determining future courses of action.

The President's summit also served as a catalyst for a significantly improved working relationship between Federal agencies in identifying and delivering long-term recovery assistance to the affected States. FEMA is currently working with other Federal agencies on a Long-term Recovery Task Force, chaired by the Secretary of Agriculture, to ensure an effectively coordinated process. This marks one of the first times in recent memory that Federal agencies have worked together so closely to ensure an integrated response to long-term recovery needs following a large-scale disaster.

I would also like to mention how well the Federal Response Plan, which describes how the Federal Government will respond in large-scale or catastrophic disasters, worked during the floods. The Federal Response Plan is a "living" document which is continually updated and expanded based upon lessons learned from exercises and disasters. It is not a detailed operations plan but, rather, a strategic plan in which Federal departments and agencies have identified critical areas of support that a State would likely require. The Plan

provides mechanisms to identify anticipated or actual requirements and then provide the resources that are needed. FEMA's role is to facilitate this interagency coordination and, in particular, to assign and validate missions which Federal departments and agencies are given under the Stafford Act.

Numerous innovations were developed as the result of a 90-day interagency Federal Response Planning Task Force that was initiated after Hurricane Andrew. The purpose of the Task Force was not just to determine problem areas in the response, but to improve interagency procedures and coordination. We had just completed the Task Force in early June. Also in early June, we conducted the Response 93 exercise in Salt Lake City and were beginning our evaluations to determine where we needed to make changes in the Plan when the flooding struck.

Many of the same people who participated in the Task Force and the exercise also worked in our Emergency Support Team operation at the headquarters. They were making changes on a day-

to-day basis based on lessons learned. This was particularly useful, for example, in scoping the basic mission assignments to meet initial response requirements, including vector control, hazardous materials response, and flood fighting support.

I would like to cite another example of the new sense of teamwork. On some occasions, more than one Federal agency was able to deliver a particular type of assistance in response to a State request. In previous disasters, the State may have received the same type of assistance from more than one agency. Because of the teamwork that had been built, Federal agency representatives worked together in determining which Agency could deliver the assistance by the quickest, most cost-effective means. In other cases, one agency would have the necessary equipment, but found it could be provided more quickly by another. As a result, we eliminated duplication while still being responsive.

The innovations that I have already mentioned, including extensive work in donations, the establishment of the Mobilization

Center in Kansas, the improved Federal agency teamwork at all levels, the advanced placement of personnel in State Emergency Operations Centers, and the action planning that moved operations from response into recovery are all a result of improvements that have been made in the Federal Response Plan.

In summary, I believe the high level of the Federal response to the Midwest flooding represents a major step forward in our ability to meet quickly and efficiently the needs of affected States. The partnership at all levels of government, the active involvement of the President and Cabinet officials, and the direct role of State officials in identifying needs and working with Federal officials in coordinating the delivery of assistance all contributed to making this an effective operation.

But I do not want to make it appear that we have met all of our goals. We must continue to improve our responsiveness to our customers in disasters. We must look at improved methods of long-

term recovery. We must reduce the costs of natural disasters through mitigation.

We still have a long way to go. Criteria for assistance need to be clarified. We need to improve programs of mitigation to lessen the effects of disasters. We need to improve the levels of State and local preparedness to lower the need for Federal involvement. We need to improve our tests and exercises of plans and personnel at all levels of government to ensure constant readiness to respond to disasters.

Thank you for your time and attention. Mr. Chairman and members of the Subcommittee, I would welcome any questions you may have.

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